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Honorary President

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National President

★ ★

Vol. 5
No. 3

AIR TRANSPORTATION

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***THE COVER**—Already on order and far beyond the blueprint stage is tomorrow's superliner by Douglas, based on prewar designs but vastly improved by war experience. It's the DC-4, known far and wide to the Army as the C-54. Also soon to go into production is the very similar but slightly larger DC-6.*

JOHN F. BUDD, *Editor and Publisher*

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Publishers of CUSTOM HOUSE GUIDE *and* AMERICAN IMPORT & EXPORT BULLETIN

Publication Office:
Ten Bridge St., New York 4, N. Y.
Phone: WHitehall 4-2898

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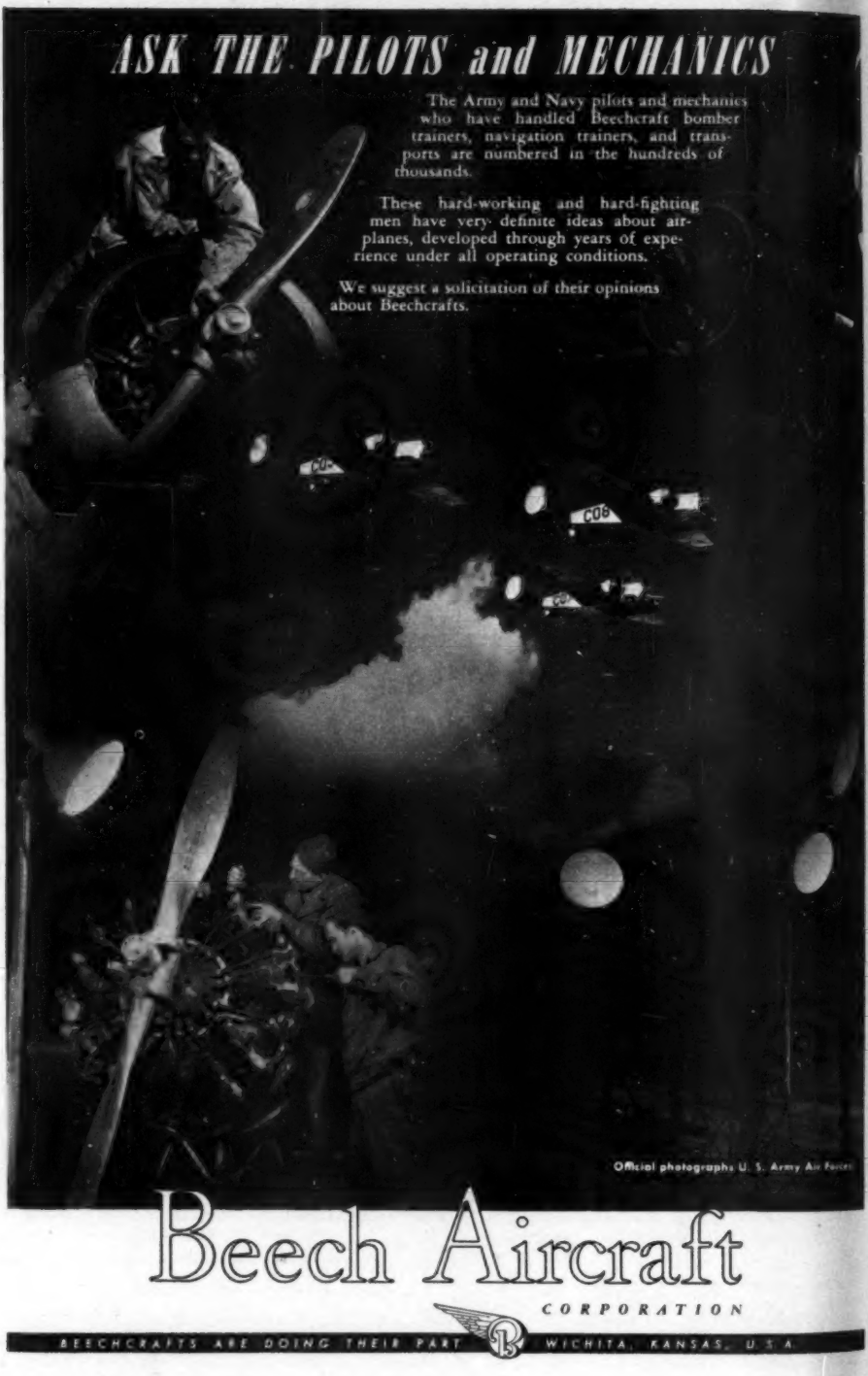
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Cargo Costs Start Down

AS mid-September arrived, the great $64 air-cargo question of the past two years started for the first time to get some fairly definite answers.

"How much will it cost?" Around that single question hangs the whole future of freight transportation by air. Around it have raged some of the hottest debates in aviation history, with the most liberal thinkers forecasting that the generally prevailing prewar cargo rate of 80 cents per ton-mile would (and should) soon be slashed to as low as 10 cents a ton-mile. And with conservatives arguing that a rate even as low as 30 cents was hardly probable in the foreseeable future.

Now, during the past month, have come four authorities with their tries at an answer to the $64 question. First was the report of Curtiss-Wright's research division, completed only after a most exhaustive study of the vast number of angles involved; then a Department of Commerce report.

Within a matter of days came both Pan American World Airways System and American Airlines, Inc., with what were not research reports but announcements of rates to apply in the immediate future. The only indefinite thing about either announcement was the date when the rates would become effective. And the striking thing about both was the fact that both forecast rates, on certain classes of commodities and service, even lower than the postwar researchers of Curtiss-Wright had dared to predict.

Every air shipper or prospective shipper of cargo by air will want to read and weigh all four articles: the Curtiss-Wright report, beginning on Page 8, the Pan Am announcement, beginning on Page 13, the American Airlines announcement on Page 18, and the Department of Commerce analysis, on Pages 20-21.

POSTWAR PLANNERS: Gathered in Buffalo are members of Curtiss-Wright Corp.'s postwar committee. Standing is Dr. D. H. Davenport, C-W's business research head, whose cargo explorations are detailed below. Other members, left to right: C. M. Leeds, of Wright Aeronautical; James C. Willson, C-W vice president and chairman of the group; Peter F. Rossman, general manager of the corporation's development division, and Prof. Edmund D. McGarry, business research consultant. Not shown is Oscar Nelson, of the C-W propeller division.

20c Ton-Mile Rate by 1950?

Five years after V-Day will see sharp cut in air cargo costs, declares Dr. D. H. Davenport, Curtiss-Wright research head

A CUTTING-DOWN of postwar air transportation rates, gradual at first and then accelerating rapidly, is forecast by Dr. D. H. Davenport, director of business research of Curtiss-Wright Corp, airplane division. Numerous improvements in service, a tremendous increase in air travel, and better equipment also are anticipated by Dr. Davenport in summarizing the findings of a study, *Air Transportation in the Immediate Postwar Future*, by the Business Research Department of the Curtiss-Wright Airplane Division.

Dr. Davenport said it has been estimated that within five years after the war, domestic passenger rates will have declined from the prewar average of 5.1 cents per mile to 3.5 cents a mile, and express rates from the prewar 80 cents a ton-mile to 30 cents a ton-mile.

Numerous improvements in service may

be anticipated to the advantage of passengers and shippers alike, Dr. Davenport pointed out, adding: "With the full application of wartime developments to peacetime air transportation, the number of accidents is expected to be so low that *fear of travel should be eliminated entirely as a deterrent to air travel.*

"Flight cancellations should be virtually negligible, and almost 100 per cent schedule performance may be expected," he continued. "Furthermore, the addition of lights and the extensions of service to many points not now served should make air travel as convenient as train travel. Finally, improvements in aircraft design and interior appointments may be counted on to add greatly to the comforts of air travel."

Air Cargo to Gain 3,000 Pct.

As a result of these influences, the Curtiss Airplane Division Business Research head points out, domestic air travel five years after the war has been estimated at approximately seven times that of 1940—700 million passenger miles as against 104 million. Express, he said, is expected to show an even greater rate of increase—from 3.5 million ton-miles in 1940 to 110 millions five years after the war; while mail is estimated at 87 million ton-miles as compared with 10 million in 1940. Comparable rates of increase are expected in international air traffic.

The carriage of cargo provides the greatest ultimate growth possibilities for air transport, according to the study. *In the past, rates have been so high that only a very small part of total cargo has been attracted to air shipping.* The rate of growth of air express has, nevertheless, been very encouraging, increasing from an estimated 200,000 ton-miles in 1931 to 3.5 million in 1940.

In 1940 domestic common carriers handled 584 billion ton-miles of traffic. Of this total 63.8 per cent was carried by railroads (exclusive of railway express and parcel post), 29.2 per cent by waterways and pipelines, 6.5 per cent by motor carrier, 0.4 per cent by railway express and parcel post, and 0.0006 per cent by air express.

Rates charged by the various surface shipping agencies ranged from a fraction of a cent per ton-mile for some types of carload freight up to an average of 20 cents for parcel post. Railway express rates averaged 10.25 cents per ton-mile, ranging from 3.5 cents for carload express to 28 cents for corpses; over half of railway express traffic, however, moved at the average first class rate of 14 cents per ton-mile.

The fastest surface service was offered by the agencies charging the highest rates—railway express and parcel post. A large part of the traffic carried by these two agencies, however, consisted of lightweight shipments which were cheaper to send by rail express or by parcel post than by any other medium because of the low minimum charges made by these two agencies.

40¢ Ton-Mile Rate by 1946

Until very recently, air rates averaged 80 cents a ton-mile. It is assumed in this study that *by* 1946 *air rates for door-to-door service will average* 40 *cents per air ton-mile.* This rate is based on combination passenger-cargo plane performance, since that is the type of plane which, it is expected, will be used generally. Included in the 40-cent rate is an allowance of 8 cents per ton-mile for pick-up and delivery and ground handling service. By 1950, it is estimated that air cargo rates will fall to about 30 cents per air ton-mile, reflecting such influences as increased volume, more widespread use of all-cargo planes, introduction of advanced equipment, and further economies in operations.

The rates indicated also assume that overnight door-to-door service will be characteristic of most postwar air cargo service. Same-day service, it is believed, would not be practicable as a general rule; first, because the costliness of the expedited ground handling necessary for such service would probably discourage more traffic than could be attracted by the speed offered, and second, because only a small part of the total traffic could take advantage of same-day service, owing to the limitations imposed by the conventional eight-hour business day.

It is estimated that by far the major part of air cargo volume will consist of manufactured products. Shipments of style goods, seasonal goods, and goods changing in model, are expected to lead.

A Navy truck takes to the air in one of the scores of Curtiss Commando cargo-planes used by the Armed Forces during the war. Here a cargo-lift elevates the body of the truck to the main loading door of a Commando. Note how the plane's level position when on the ground facilitates loading despite the greater height of the fuselage from the ground.

Considerable use of air transportation in emergencies and for the rapid adjustment of shortages or over-supplies, particularly in high-value merchandise, may also be expected. These areas of profitable use of air transport should widen at an ever accelerating rate as ton-mile charges decline.

Perishables a Vast Field

Perishable products represent a tremendous ultimate market for air cargo, but are not expected to move in significant volume at the rates indicated in the immediate postwar period. The high cost of air shipment, as compared with the economic gains from its use, and as compared with average wholesale values of perishable products, will, it is believed, make air cargo prohibitive for the great bulk of perishable products in this period. A substantial business may, however, be developed along particular routes in certain types of gift packages, specialty fish, fruit and vegetable items, and in cut flowers.

Consideration should also be given to the traffic possibilities if all-cargo operations should prevail. Operating at costs of about 10 cents per ton-mile less than those characteristic of combination cargo-passenger aircraft, *cargo operations employing all-cargo planes exclusively could possibly offer shippers rates of about* 30 *cents per air ton-mile in* 1946, 25 *cents in* 1948 *and* 20 *cents in* 1950. The demand schedule indicates that such rates would be capable of attracting 63 million ton-miles in 1946, 123 million in 1948 and 253 million in 1950. While these volumes are about double those estimated on the basis of combination-plane use, it seems doubtful that they would be great enough to support all-cargo operations on more than a few routes of high density. Further, all-cargo service having reasonable frequency of schedule would probably result in low load factors which would tend to offset the economies of general employment of all-cargo planes.

"Even with the increases estimated above, air transportation, five years after the war, will still be a small part of total traffic," Dr. Davenport points out. "As rates continue to decline, however, and approach competitive carriers' rates, the effects of the many indirect economies afforded by air transport will begin to be felt in increasing force and air cargo should increase at a rapidly accelerated rate.

"Rapid transit makes possible savings in inventories, in interest charges, in insur-

IT'S JUST AS EASY TO SHIP TO MEXICO AS TO A NEIGHBORING CITY from any point in the United States. You take only two simple steps: First, you complete American Airlines' brief Shipper's Letter of Instructions; then, you call the nearest Railway Express Agency, Air Express Division, for pick-up. *That's all you do!* The rest is done *for* you, quickly and efficiently.

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ance, in packaging and in handling; these savings may not appear important when there is a differential of 15 or 20 cents per ton-mile between air and surface rates, but may well be critical when that differential has been reduced to a few cents."

1,500 Planes Will Do Job

The Curtiss research director said it is estimated that approximately 1500 planes will be sufficient, five years after the war, to meet the requirements of U. S. air carriers operating domestically and internationally, as well as the requirements of foreign operators in certain foreign areas which may be accessible to U. S. manufacturers.

He pointed out that in 1930 there were 497 planes in use in domestic air commerce. In 1940, the airlines carried 13 times as much traffic as in 1930 but with 330 planes. *In* 1943 *the airlines handled* 50 *per cent more traffic than in* 1940 *with about half as many planes.*

"The answer to this apparent contradiction lies in two factors—increased size of planes and increased performance due to greater speeds, greater load factors and higher utilization," Dr. Davenport says. "After the war, the trend of greater size and better performance will undoubtedly continue. Consequently the increase in the number of planes is not expected to be as great as the estimated increase in traffic."

Giant Planes Not Expected

There is nothing to indicate, Dr. Davenport said, that giant planes carrying 150 to 200 passengers will be a common sight on the airways in the immediate postwar years.

"In the first place," he pointed out, "it may be at least several years after the war before even a single plane of that size will be available to the airlines. In the second place, it probably would not be possible to give the desired frequency of service and still maintain economical load factors with planes of that size for a number of years to come."

The business research chief reported it was estimated that medium trunk-line planes of 30- to 40-passenger size would best suit the requirements of the bulk of traffic during the immediate postwar years.

The study which Dr. Davenport summarizes was made to aid the Curtiss airplane division in its planning for postwar production and sale of peace-time Curtiss *Commandos*, largest twin-engine transport in the world.

"After the war," he said, "Curtiss-Wright plans to be an active and important producer for the commercial airplane market as well as for the military. The C-46 *Commando*—originally known as the CW-20—was in fact originally designed as a commercial transport, but was converted to a military model after the war. Our plans for competing in the commercial market are, therefore, not new."

Dr. Davenport points to the extensive and rugged wartime duties of the *Commando*, adding: "The result is that the postwar commercial counterpart of the *Commando* will be a proven ship, and a vastly improved ship.

"The competitive prospects of the *Commando* in the postwar market, it was concluded, appear excellent from at least two points of view. First, since the *Commando* can be designed to accommodate from 36 to 44 passengers, it seems to be well adapted to the bulk of the traffic with respect to size. Second, it was estimated that, based on 1940 experience, the greater part of postwar air traffic will be comparatively short-haul. (In 1940, 85 per cent of air traffic was carried on hops of 600 miles or less.) Since the *Commando* is most efficient at medium ranges, it appears well adapted from an economy-of-operations point of view."

In commenting on surplus military aircraft, Dr. Davenport said there are "two compensating features in the surplus plane picture." Surplus military transports will have to undergo considerable modification which probably will be done by the original manufacturers; and surplus planes, sold at a fraction of their original cost, "may act as a stimulant to the expansion of the airline system."

"Despite its very rapid growth, air transportation has barely scratched the surface of the traffic potentially available to it," Dr. Davenport pointed out. "Today, the airlines are in the 'big business' category; yet it is apparent that they stand only at the threshold of their ultimate expansion possibilities."

Pan Am Plan: 10c Ton-Mile

That's projected minimum rate, but PAA promises average of 25 cents per ton-mile on air cargo shipments to and from Latin America

RAPID air cargo service with rates as low as a phenomenal 10 cents a ton-mile to great potential markets in Latin America is planned in Pan American World Airways System's huge postwar program of mass transportation.

Proposed tariffs announced this month would make air transport available to small, as well as large, businesses and open up new fields to manufacturers in both North and South America who have been limited to domestic outlets for their products, Pan American points out. It probably will provide channels for merchandising that have not been possible under the order and delivery system that has prevailed with slower means of transportation.

"It will be possible," Pan American explains, "to order by air mail or wire a gown, pair of shoes or a needed piece of mechanical equipment and obtain the article within hours, instead of weeks or months. There is no limit to the field of small commodities that can be shipped quickly and cheaply. In turn, it is expected that this would be reflected in an approved employment situation after the war."

Contrasted with the average tariff of 80 cents per ton-mile for cargo, the new rates would average 25 cents per ton-mile, while classified cargo destined to more distant commercial centers would be carried for rates as low as 10 cents per ton-mile.

Pan American estimates that it will handle about 30,000,000 lb. of air cargo annually, as compared to 1,700,000 lb. carried in the pre-war year of 1941. Bigger four-engined postwar planes will make such loads possible.

Many fragile or perishable commodities which it was not possible to ship from one country to another because of the high rates and limited cargo capacity will be carried in greatly increased quantities and at lower rates. This, Pan American firmly believes, will build up more trade between the Americas than has ever existed.

The same air cargo set-up will be applied to Pan American's operations elsewhere. Recently announced was a program for service between Hawaii and the mainland, which will benefit commercial shippers on the West Coast, as well as in the Islands. As contrasted with the prewar average rate of $1 per ton-mile, cargo will be carried on *Super-Clippers* between the California terminals of Los Angeles and San Francisco and Honolulu at an overall rate of 24 cents per ton-mile. The trip will take about eight and a half hours, contrasted with 16½ now required.

On the new *Clippers* in the Latin American service travel time to Buenos Aires would be reduced from the present 91 hours 15 minutes to 21 hours 25 minutes and to Rio de Janeiro from the present 66 hours to 19 hours 50 minutes. Similar fast schedules would also be available from all Pan American gateways in the U. S. to and between the Latin American capitals. Before the first Pan American System service was established, in 1929, the trip to Buenos Aires required 21 days by the fastest means of transportation then available.

Looking forward to a postwar era of development never before equaled in the history of Alaska, Pan American has announced proposed *Clipper* service to Anchorage which will bring it into direct contact with the U. S. on a trunk route between Seattle and Fairbanks, in the heart of the territory, and here, too, there

will be another channel for new trade. In fact, under Pan American's postwar program cargo will be flown to practically every part of the world. The Latin American program is just the beginning, PAA promises.

Details have been filed with the Civil Aeronautics Board before whom hearings will soon be held on Pan American's request for authority to operate more direct express services in South America to Rio de Janeiro and Buenos Aires and to connect the company's Latin American network with new gateway ports within the U. S.

In addition to Miami, New Orleans, Brownsville, Tex., and Los Angeles, passengers and freight would be flown to Latin America from Charleston, S. C., Tampa, Fla., Houston, Tex., as well as New York, now the gateway for transatlantic service. These additional gateways will provide direct channels for an increased flow of cargo into and out of industrial areas at rates that will make air shipping practical and desirable.

War Delayed The Step

Pan American received permanent authority to operate its present network of air routes to Latin America under the Civil Aeronautics Act in 1939. The large fleet of four-engined Lockheed *Constellations* and Douglas DC-4 land transports then ordered, for delivery in 1941 and 1942, were never placed in service. As a result, the capacity of the System's present service throughout Latin America has been but one third of what would now be available had the war not intervened.

Exhibits filed with the Civil Aeronautics Board disclose the fact that Pan American has ordered a fleet of larger and still more advanced four-engined *Clippers* which embody many technical improvements developed during the war. Construction orders for these aircraft are subject to the release of the War Production Board as soon as military priorities permit.

While no performance details of the new aircraft can be disclosed for security reasons, the larger of the new *Clippers* will carry 108 passengers and a considerable amount of cargo to the most distant South American capitals. A smaller four-engined type will carry 60 passenger and cargo, serving intermediate points. Both *Clippers* will be able to fly in the sub-stratosphere at speeds in excess of 300 miles per hour.

Pan American, of course, has been the pioneer in international air transport—first commercial air line in the world to operate over major ocean routes.

Under the air cargo schedules filed by Pan American, rates are established in three classes, the first class being for commodities of relatively high price with a definite advantage gained by speed, the second being for commodities of relatively lower value than the first class, not as yet moved in any quantity by air carriage and the third class being for commodities of little or no intrinsic value, but for which speed is a factor, such as advertising material and magazines.

Classifications Described

Among the items which come in First Class are: Adding machines, aircraft motors and parts, works of art, books, cameras, bearings, automotive parts, baby chicks, gold and silver bullion, coats, cigars, furs, film, hats, jewelry, mica, perfumery, handbags, typewriters, surgical instruments, yarn and yeast.

Among the items which would be included in Second Class are: Aluminum ware, ale and beer, candy, canned goods, cheese, cloth, crockery, earthenware, flannels, gloves, jams and jellies, tobacco, tea, tapioca, woolens, worsted, yarns, and fruits, canned, dried or fresh.

Third Class would include advertising matter (printed on paper or cardboard dummy cartons or boxes knocked down, catalogues, circulars, leaflets, pamphlets), magazines, newspapers, periodicals, sheet music.

40c Ton-Mile Is Maximum

Ton rates between the various points served by the great program of expansion would be established so as to vary inversely with the distances shown in charts prepared by the airline; the highest rate for first class commodities being 40 cents per ton-mile for the shortest distance, declining to 20 cents per ton-mile for carriage of 5,000 miles or over. The minimum charge

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*Sir Isaac Newton's first law of motion.

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COMPARATIVE FARES (one way)

Route		Present Fares	Proposed Fares	Savings
New York—San Juan		*$181.35	$ 81.00	$100.35
	Port of Spain	* 266.35	109.50	156.95
	Rio de Janerio	* 491.35	175.00	316.35
	Buenos Aires	* 561.35	190.50	370.85
Charleston—Nassau		** 49.65	28.50	21.15
	Rio de Janeiro	** 454.65	172.50	282.15
	Buenos Aires	** 524.65	183.00	341.65
Miami—San Juan		115.00	52.00	63.00
	Rio de Janerio	425.00	167.00	258.00
	Buenos Aires	495.00	169.50	325.50
	Balboa	130.00	58.50	71.50
Tampa—Havana		*** 31.00	17.00	14.00
New Orleans—Mexico City		95.00	46.50	48.50
	Guatemala	86.00	54.00	32.00
	Balboa	154.00	83.50	70.50
	Rio de Janeiro	515.00	176.50	338.50
	Buenos Aires	585.00	178.50	406.50
Houston—Barranquilla		**** 207.10	95.50	111.60
	Mexico City	**** 46.10	38.00	8.10
	Rio de Janeiro	**** 536.10	186.50	349.60
	Buenos Aires	****616.10	193.50	422.60
Los Angeles—Balboa		225.00	137.00	88.00
	Rio de Janeiro	590.00	225.00	365.00
	Buenos Aires	670.00	227.00	443.00
Mexico City—Rio de Janeiro		490.00	173.50	316.50
	Buenos Aires	570.00	174.00	396.00
Balboa—Rio de Janeiro		365.00	145.50	219.50
Caracas (LaGuarira)—Buenos Aires		420.00	143.00	277.00

* Includes Eastern Airlines fare N.Y.—Miami
** " " " " Charleston—Miami
*** " " " " Tampa—Miami
**** " " " " Houston—Brownsville

Table shows at a glance PAA's planned postwar passenger rates.

would be a dollar per shipment. Rates would be established in zones of 100 miles. Minimum rates would be established as follows:

1st Class ..... 10 cents per lb.
2nd Class ..... 7 cents per lb.
3rd Class ..... 5 cents per lb.

The express rates at right are typical of the rates which it is expected will appear in the final Tariff and average 25 cents per ton-mile, rates being per pound by weight of measurement and applying from airport to airport.

Earlier, details of PAA's postwar program for passengers were revealed.

The new Pan American fleet, it was pointed out, will increase the System's present passenger-mile transport capacity in Latin America more than 100 times—in fact, Pan American would be able to han-

Between	Rates in cents per lb. 1st Class	2nd Class	3rd Class
LOS ANGELES and			
Mexico, D. F.	26	17	11
Balboa	41	28	19
Rio de Janeiro	65	49	33
Buenos Aires	69	52	35
NEW ORLEANS and			
Mexico, D. F.	17	11	7
Balboa	27	18	12
Rio de Janeiro	51	38	26
Buenos Aires	55	41	28
MIAMI and			
Balboa	20	13	9
Rio de Janeiro	49	36	24
Buenos Aires	50	37	25
NEW YORK and			
San Juan	26	17	11
Caracas	32	22	14
Rio de Janeiro	50	38	25
Buenos Aires	55	41	28
BALBOA and			
Guatemala	17	11	7
Rio de Janeiro	43	30	20
Buenos Aires	46	33	22

COMPARATIVE TIME (Elapsed)

Route	Time Via Present Routes	Time Via Proposed Routes	Saving in Time by use of Proposed Routes
New York—San Juan	17:40	5:25	12:15
Port of Spain	23:25	8:09	15:16
Rio de Janeiro	66:00	19:50	46:10
Buenos Aires	91:15	21:25	69:50
Charleston—Nassau	11:00	2:05	8:55
Rio de Janeiro	61:15	22:55	38:20
Buenos Aires	86:30	28:55	57:35
Miami—San Juan	8:35	3:40	4:55
Rio de Janeiro	56:55	18:10	38:45
Buenos Aires	82:10	19:50	62:20
Balboa	6:35	4:05	2:30
Tampa—Havana	3:15	1:50	1:25
New Orleans—Mexico City	8:55	3:15	5:40
Guatemala	13:15	4:20	8:55
Balboa	12:50	6:15	6:35
Rio de Janeiro	83:55	19:30	64:25
Buenos Aires	82.30	22:30	60:00
Houston—Barranquilla	33:50	6:59	26:51
Mexico City	6:35	4:10	2:25
Rio de Janeiro	87:35	36:29	51:06
Buenos Aires	112:50	42:29	70:21
Los Angeles—Balboa	35:45	12:15	23:30
Rio de Janeiro	109:15	25:15	84:00
Buenos Aires	107:50	28:15	79:35
Mexico City—Rio de Janeiro	96:30	18:45	77:45
Buenos Aires	95:05	21:45	73:20
Balboa—Rio de Janeiro	56:15	12:30	43:45
Caracas (LaGuaira)—Buenos Aires	73.50	13:10	60:40

How Pan American would save travelers (and cargo) time on new Schedules.

dle five times as many passengers as ever traveled between the U. S. and South America by both sea and air combined in the best pre-war travel year.

Air tariffs on the long distance routes to Rio and Buenos Aires would be as low as 3½ cents a mile. Substantial reductions will also be offered to other points elsewhere in Latin America.

Confirming details of the program, Pan American President Juan T. Trippe said:

"The United States and all the American republics are hoping for a large expansion of trade after the war. Any substantial volume of international trade with our sister nations to the south is impossible without swift economic and adequate transportation.

"The Pan American Airways System before the war had extended air service to every capital and important trade center in Latin America. Four years of world war have naturally retarded our progress. Only a skeleton service is now available.

"We are confident that both trade and travel volume will come, if we provide comprehensive air service within the reach of every business, both large and small, and within the means of the average man and woman."

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A correct paper for every business need

AA Starts Air Freight

No express this time, but honest-to-God bulk cargo, and the product—believe it or not—is spinach, 5,000 lbs. of it; regular schedules set to begin October 15

AIR FREIGHT, as a commercially feasible method of transporting regular shipments of merchandise and commodities including perishables, became an actuality on Sept. 14 when American Airlines instituted its new air freight service. In Washington the first complete air freight tariff ever filed by an airline with the Government was delivered to the Civil Aeronautics Board. At Burbank, Calif., the world's first full planeload shipment of one commodity to move commercially in this type of service—5,000 lbs. of spinach—took to the air.

According to James A. Wooten, cargo traffic manager of American shippers interested in a wide range of merchandise and commodities have signified their intention of using air freight consistently when the service starts in regular operation on Oct. 15, serving 43 cities on American Airlines routes.

The tariff filed with the Civil Aeronautics Board provides for four classifications —A, B, C, and D—dependent upon such factors as value, volume, density, perishability and fragility. The rates to the public including pickup and delivery average as low as 30c per ton mile for class D merchandise on 100-lb. shipments. Allowances are made if pickup or delivery are not used. The service is designed for greatest effectiveness over distances of 450 miles or more and on shipments of 25 lb. minimum. Included in American's tariff is a special commodity tariff for agricultural commodities with rates of approximately 25c per ton-mile for perishables in shipments of 5,000 lb. minimum.

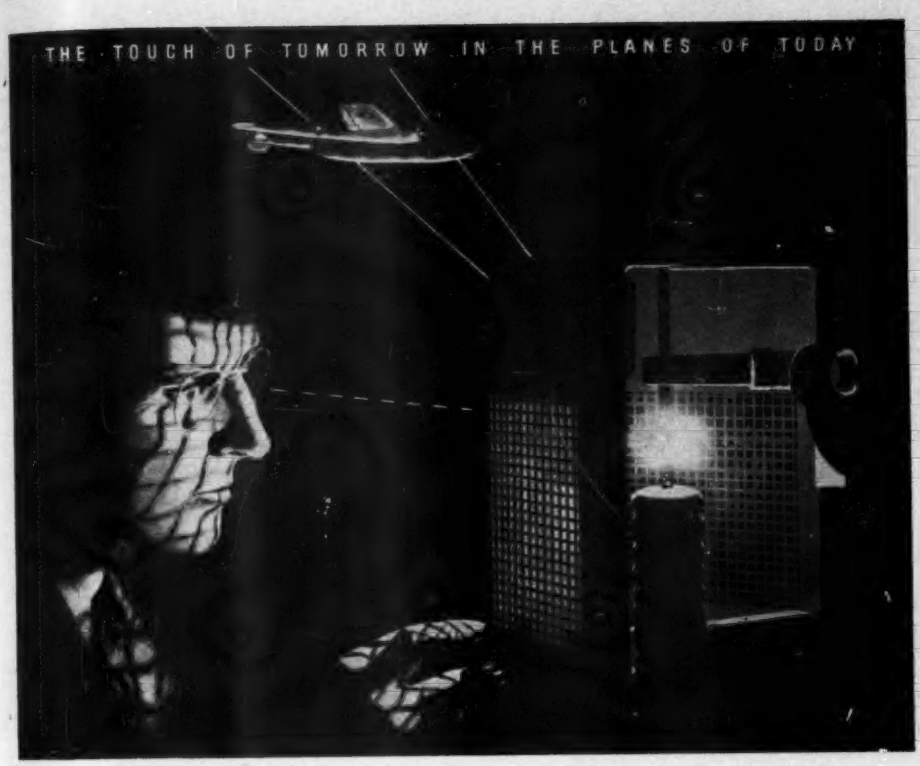
The special shipment from California was part of a retail merchandising program fostered by the Kroger food store chain and the destinations of the 5,000 lb. of spinach were three eastern cities.

The spinach was picked at the Sunny Sally Farms in Los Angeles in the morning, stemmed, cleaned, wrapped in 10-oz. cellophane packages and put aboard an American Airlines Airfreighter at Burbank for departure at 3 p.m. (PWT). It was on sale in the Kroger Stores in Cincinnati, Louisville and Dayton the next morning. Kroger is offering it for sale to the public as "Airspeed" merchandise.

Wooten, in announcing air freight service, envisioned it as a boon to retailers in all lines because it will permit them to operate on a smaller inventory and thus less invested capital, with proportionately less surplus to dispose of at a possible loss because of obsolescence and spoilage. "These operating savings," Mr. Wooten stated, "will be reflected in lower prices to the consumer public."

He also made public a message to President A. N. Kemp of American, from Marvin Jones, War Food Administrator, who said in commenting on the first special all-food shipment: "The War Food Administration is gratified that American Airlines has selected food as a first full planeload shipment of perishable merchandise to move by regular all-freight air service.

"Quick and efficient distribution of food is vital to a nation at war. In the postwar world I have no doubt that through the use of air transportation many perishable foods can be carried efficiently from the point of production to the market and this will make for an expanded production for expanded use, to the advantage of both farmers and consumers."



Vigil in the Age of Flight

Scientists in aviation's research laboratories never take their eyes off the future.

In the arclight of the spectrograph the elementary composition of a substance is revealed and photographed on film . . . The X-ray diffraction camera takes pictures of chemical structures . . . Electric furnaces test steels in fire . . . And strange devices torture metals and woods to ascertain their strength.

Technicians at Fairchild use these and other tools constantly in their search for new applications, and in their control of quality. On their findings may depend an increase in power for Ranger aircraft engines—may depend the design for a new plane to be built for a *special* purpose with new materials.

Fairchild planes are renowned for their flying characteristics . . . their stability and ease of control. Inverted Ranger engines, inline, aircooled, are noted for their smooth, compact power. Both planes and engines earned their reputations because of a fundamental Fairchild philosophy — painstaking research and engineering excellence.

The scientists behind Fairchild doors marked "EXPERIMENTAL—Restricted Area" are, through continuing research, keeping "the touch of tomorrow in the planes of today."

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Hagerstown, Md., Burlington, N. C.

Duramold Division, New York, N.Y.
Affiliated, Stratos Corp., New York, N. Y.

Government Says 10-15 Cents

Transportation Chief of Commerce Department Forecasts Low Rates between Americas "If Traffic Justifies Special Cargo Planes"

POSTWAR air cargo rates between the Americas may be from 10 to 15 cents per ton-mile—about one-fourth of the present level—providing the traffic in both directions is sufficiently large to justify use of specifically designed air cargo planes which carry nothing but commodities. Such is the conclusion of Dr. John B. Crane, chief of the transportation unit of the U. S. Bureau of Foreign & Domestic Commerce, in a recent report on *Air Cargo Potentials Between the United States and Latin American Countries.*

If, on the other hand, air cargo volume proves to be so small that it must be carried in aircraft primarily designed for the transportation of passengers and mail, Dr. Crane believes, then cargo rates will probably be substantially higher.

The difference between 10 and 15 cents per ton-mile depends upon the territory served, he explained. The estimate of rates is on the airport-to-airport basis which excludes such services as terminal handling and pickup and delivery.

Dr. Crane also has made public a report on a survey made by the Bureau of Foreign & Domestic Commerce on air cargo potentials between the U. S. and Brazil to determine the proportion of trade that might be considered as being potential air cargo. Reports on similar surveys of air cargo potentials between the United States and Argentina, Venezuela, Peru and Colombia are also being made public. It is expected that surveys will be made also of the remaining countries at an early date.

In the report on air cargo potentials between the U. S. and Brazil, the survey found that of 1,358 commodities valued at $80,345,195 exported from the U. S. to Brazil in 1939, 476 were considered to have potentials for air shipment. These 476 commodities had a total value of $10,991,782 and amounted to 13,575,373 lbs. with an average value per pound of 90 cents.

Commodities with a value of less than 50 cents per lb. were generally eliminated from the list of commodities possessing air cargo potentials as it was felt that few commodities below that minimum value would offer prospects for air carriage in the immediate postwar period. The report says that many commodities over 50 cents in value, particularly between 50 cents and $1, offer slight prospects for air carriage unless additional factors, such as perishability, fragility or style, are also involved.

"It is evident," the report adds, "not only that the commodities in the higher value groups offer better prospects for air carriage than those in the lower groups, but also that a large percentage of the commodities in the higher value groups are likely to go by air."

The 476 commodities judged as possessing potentials for air shipment from the United States to Brazil consisted of 437 which have a value of 50 cents a lb. or over. The remainder were included because of special factors. Fifteen were perishables, 21 fragile commodities, and three possessing a style factor whose value would be reduced by passage of time.

A similar analysis of imports in 1939 from Brazil to the U. S. indicates that there were 255 commodities imported of which 47 were selected as possessing potentials for air shipment.

A breakdown of these 47 shows that 40 were valued at 50 cents a lb. or over while seven valued at less than 50 cents a lb. were perishable or fragile. The 47

selected commodities had a value of $3,406,212 or 3.2 per cent of the value of all imports from Brazil in 1939. The total weight of the selected commodities amounted to 1,731,335 lbs. worth an average of $2 per lb.

"It will be noted," the report continued, "that *the volume of exports which offer air cargo prospects is approximately eight times the volume of imports in terms of value.* This strikingly unbalanced traffic movement will exert an adverse effect on average load factors of air cargo carriers and will probably result in higher average rates.

"Of the $186,650,157 which represents the total value of commodities which moved between the United States and Brazil in 1939, only 7.7 per cent ($14,397,994) was, on the basis of the criteria adopted, potential air cargo. While the proportion of the total value of exports included amounted to 13.7 per cent, that of imports was only 3.2 per cent.

"Over 75 per cent of the total value of export commodities selected was valued at less than $2 per lb. Very few commodities were found to possess a value of $10 or more per lb.—seven in the value group of $10 to $24.99 and 12 in the value group of $25 and over. The aggregate shipping weight of these 19 commodities was 12,889 lbs., and the total value was $2,295,142."

These 19 commodities included fox furs, cameras, teeth, watches, jewelry, diamonds, cut mica, tungsten, metal, dental gold, precious metals and stamps.

Several studies are now in progress to determine whether anticipated decreased air cargo rates will permit import by air of certain products which never before have entered inter-American trade.

American Airlines Alone Flies Atlantic 13 Times a Day in July

An all-time high in American Airlines military operations for the Air Transport Command of the Army—1,629,211 miles flown in the month of July—brings the total mileage flown by American Airlines for the Army to 27,684,684 miles since the spring of 1942, it was announced this month by Hugh L. Smith, operations vice-president.

Four hundred and nineteen transatlantic crossings were made in July alone, an average of more than thirteen crossings a day, bringing the total of all transatlantic crossings by American Airlines' crews to almost 3,500 by the end of the month—all accomplished without a serious accident and without the loss of a single plane. More than 100 five-man crews are engaged in the operation.

Each plane in the service was kept in the air almost 12 hours out of the 24 during the entire month of July, and fresh relay crews stationed at intermediate bases in Newfoundland, Iceland, Scotland, and North Africa took the big four-engined craft on their way after only a brief pause for refueling and service. An undisclosed additional number of flights was made between Scotland and North Africa. All planes are convertible into litter ships, and on most of the return flights from the British Isles, loads have consisted largely of wounded, though hundreds of bags of mail from the boys at the front have shared the space on every flight. A total of 5,253 passengers were carried east or west over the Atlantic during the month on planes AA is operating for the Air Transport Command.

With the completion of what is probably a record for military operations by any contract airline, American climaxes the operation which began with a survey flight to Greenland in April, 1942, and has averaged more than 1,000,000 miles a month for the past two years. In this period, the company has operated to every continent in the world, to 27 countries, to almost 100 cities outside of the United States, and to 26 cities within this country not on its commercial schedules.

Early flight operations for the military were undertaken at the request of the Army's Air Service Command when men and supplies were being moved into the now completed bases strung across the North Atlantic from Labrador and Newfoundland to Iceland. Then came the attack on the Aleutians, and crews were dispatched over night to the Alaskan theater, carrying everything from troops in battle dress to coal, molasses and gasoline, in the stripped-down cabins of converted Douglas DC-3's. Under the Air Transport Command, American Airlines was the only domestic commercial airline assigned to flying munitions over the Hump from India into China. This was in the summer of 1943, simultaneous with regular service across the South Atlantic which was carried on into May, 1944. The company has been operating continuously across the North Atlantic for the Army since April 1942.

U. S. leadership in the postwar air world was assured when three of these men signed $50,000,000 worth of contracts for new Douglas planes, said Donald W. Douglas (seated, right). But even this record order will keep Douglas at its wartime operating level but a month or so. Shown signing on the dotted line is United Air Lines' W. A. Patterson. Standing, left to right, Capt. Eddie Rickenbacker, of Eastern Air Lines; A. N. Kemp, of American Airlines, and Harold J. Roig, of Pan American-Grace Airways.

Biggest Air Transport Order

Douglas Pockets $50,000,000 of Postwar Business, But Even Such an Order Will Keep War-Swollen Plant at Work for Only a Month

Orders for 93 new high-speed, four-engined air liners were placed this month with Douglas Aircraft Co. by three of the world's largest airlines at a meeting in New York. Signing of the contracts marked the first large-scale, concerted move to provide domestic and international airways with sky giants in the immediate postwar period, but underlined powerfully the extent of the aircraft industry's coming problems.

The total cost of the planes will exceed $50,000,000. The contracts were placed by American Airlines, Pan American-

Grace and United Air Lines. They called for delivery of 25 Douglas DC-4's and 30 Douglas DC-6's to American; three DC-6's to Pan American-Grace; and 15 DC-4's plus 20 DC-6's to United.

Under discussion, but not ready for signature, are additional contracts with Eastern Airlines, one of the original four lines which had these planes on order before the war, and other large operators in the U. S. and abroad.

United Air Lines announced that within a week it would sign contracts for an additional 15 DC-6's, making a total of 50 four-engined planes in all for this company alone, and making the total to be placed into production by Douglas in excess of 100. American also expects to order additional four-engined Douglas planes shortly, that company announced.

'U.S. Leadership Assured'

"Signing of these contracts definitely assures postwar leadership for the U. S. in world air transport," Donald W. Douglas said. "With their unrivaled speed, comfort and operating efficiency, these new transport planes will represent a long stride forward in domestic and international airline service. It is our sincere hope that they also will assist in the reconstruction and rehabilitation of the war-torn nations."

Nevertheless, it was understood the giant order would keep Douglas Aircraft running on its present basis no longer than one month—a dramatic underscoring of the vast extent of the aircraft industry's coming problems.

The Douglas DC-4 was described as a four-mile-a-minute, 44-passenger and cargo transport plane equipped with 1,450-horsepower Pratt & Whitney Twin-Wasp engines; the Douglas DC-6 as a five-mile-a-minute 56-passenger and cargo air liner equipped with 2,100-horsepower Double-Wasps.

Both will be commercial developments of the military Douglas C-54, which with more than 6,000 ocean crossings to its credit, is the most thoroughly tested and proved four-engined transport plane in existence. The airlines which have ordered the DC-4's and DC-6's have flown millions of miles with the C-54 in trans-ocean and intercontinent operations for the Air Transport Command.

The airline presidents said that the DC-6 will be able to reduce coast-to-coast scheduled time for passengers, mail and express to approximately eight and one-half hours; Chicago-New York time to two hours and 40 minutes. Similar radical reductions in flight times between cities will be accomplished on other sections of the nation's airway network.

With its cruising speed of more than five miles a minute, the DC-6 is said to be the fastest transport available either in this country or abroad for the immediate post-war period.

Its non-stop cruising range is 2,715 miles and the ship can be equipped for increasing this range to 3,540 miles.

The DC-6 will have a gross take-off weight of 80,500 lbs. It will have a wing span of 117 ft. and an overall length of 100 ft. Both the DC-4 and DC-6 will have fully retractable tricycle landing gear, a steerable-type nose wheel and three-bladed hydromatic Hamilton Standard propellers.

In addition to their speed, the new superliners will offer the most modern refinements in passenger appointments, in scientifically advanced sound-proofing, in meal service facilities and other luxury travel niceties.

The Douglas DC-6 also will have a pressurized cabin, insuring passenger comfort at high altitudes.

Backlog $100,000,000

In addition to the contracts signed today, Douglas revealed that his company, already the nation's top producer of military aircraft, approaches peace-time production with a total backlog of commercial orders now on its books for more than $100,000,000.

This figure, he said, is more than three times greater than any previous peak of non-military orders held by the company in its 23-year history.

Douglas gave assurance that not one single airplane still needed by the Government for the support of the nation's armed forces and national defense would be delayed or affected in any manner by the execution of these commercial contracts.

Averaging 20 round trips per day over the North Atlantic alone, the great trans-

port planes that will serve peacetime global travel as the Douglas DC-4 and DC-6 are now flying all the oceans on daily war schedules.

Designated the C-54 by the Army and the R5D by the Navy, the plane has been test-proved for postwar airline service in the toughest crucible of all—constant, day-and-night flights for more than two years over incredibly long distances between the U. S. and every battle theater.

Years of trial runs and development ordinarily necessary to prepare a new plane for airline use have been telescoped in the intensive, phenomenal, worldwide operation of C-54's since Pearl Harbor by the Army and Navy through fair weather or the most adverse.

Major domestic airlines under ATC contract are flying the ship millions of miles per month. In these long-range flights they have established incomparable experience records for both the ship and the crews that later will man them in postwar commercial service.

The combat-type DC-4's largely provided the vital life-flow of supplies urgently required for the invasions of Nazi-held Europe and checkerboard conquests of Jap islands in the Pacific war theater.

From the first most perilous days of the world struggle to the eve of victory this sleek transport has spanned the seas with top military and diplomatic personnel, heads of state, and every kind of war materiel from big guns and ammunition and large and small fighter airplane parts to blood plasma and medical supplies. It returns home with wounded troops or with strategic raw materials.

40 Atlantic Trips a Day

Schedules for this military-type DC-4, averaging 600 round trips per month over the North Atlantic, have proved that this route can be flown safely winter and summer in any kind of weather.

ATC pilots flew C-54's over the North Atlantic route from last November through March, traditionally bad-weather months, without mishap to a single plane. In the first half of 1944 they moved more cargo, mail and passengers via C-54 than in all of 1943.

One airline averaged more than 1,000,000 plane-miles a month for the first half-year of its operation of C-54's for the ATC. By June 30, it had completed more than 2,500 trans-Atlantic flights and more than 4,000 intercontinental trips.

In the first non-stop flight from London to Washington, an ATC crew recently flew a C-54 3,800 miles in exactly 18 hours elapsed time, averaging 210 miles per hour.

Twice As Big As DC-3

More than twice as big and 25 per cent faster than the famed Douglas DC-3, the standard transport of nearly 95 per cent of the world's airlines before the war, the military version of the DC-4 is the only four-engined transport built and delivered in large quantity to the United States Government, Douglas claims.

With cabin dimensions about the size of a standard box car, the DC-4 carries a normal payload of 20,000 lbs. a distance of 1,500 miles non-stop. Its maximum speed is 285 miles an hour, and it has flown from San Francisco to Hawaii at an average speed of 227 miles an hour. Although a "land" plane, its most difficult tests have been in transocean flights.

A major worldwide airline is flying C-54's for the ATC on a regularly-scheduled "Cannonball" air express service between the United States and India in three and a half days. Its day and night flight covers 11,500 miles over two oceans and four continents from Florida to northern India, trimming a full 24 hours from previous schedules between the two points.

These planes in ATC service are flying four main South Pacific routes between San Francisco and Hawaii, and from Honolulu to the Fiji Islands, to Australia, and to New Guinea and Townsville, Australia. C-54's are scheduled soon to replace all other types of transports on the ATC long-range, trans-Pacific routes.

C-54's have hauled wing sections for planes, engines, four-and-a-half-ton ship turbine rotors, bombs, and needed parts for all types of warcraft over thousands of air miles.

President Roosevelt and his staff of 250 were carried in 11 C-54's to the Cairo and Teheran Allied strategy conferences late in 1943. The President previously was flown in a C-54 some 7,000 miles on all land hops of his Casablanca trip.

On the basis of faith in Douglas engi-

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DON'T let your reputation for promptness lie around on the shipping room floor. When a customer marks his order "RUSH"—call for AIR EXPRESS pick-up *and get it on its way as early in the day as possible!* That's the secret of fastest delivery by AIR EXPRESS—a service that moves cargo on swift Airlines schedules around the clock, for war and reconversion jobs.

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With additional planes and space available for all types of traffic, 3-mile-a-minute Air Express directly serves hundreds of U. S. cities and scores of foreign countries. And shippers nationwide are now saving an average of more than 10% on Air Express charges — as a result of increased efficiency developed to meet wartime demands.

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neering ability and proved plane performance, the four airlines contracted in 1940 for 61 of the planes from blueprints. Engineering and tooling had been completed and actual production on the first nine planes was well advanced. Then the army requisitioned the planes for use as troop and cargo carriers at the outbreak of war. Further modifications were made to fit army specifications.

The first C-54 flew from Douglas production lines twelve weeks after U. S. entry into the war. It quickly justified the faith of the airlines which had ordered them sight unseen and were now called upon by the army to fly them under contract.

Announcement of its postwar plans comes at a time when Douglas has reached the peak of its war production. Douglas has consistently produced one-sixth of the nation's airplanes each month for the past nine months.

High marks of this prodigious output include a $3,000,000,000 backlog of orders, with monthly sales running $100,000,000 and a payroll of 160,000 employes. When European hostilities began in September, 1939, the company's commercial backlog amounted to 6,719,345, its peak to that time. It then employed 8,808 persons.

Warplane production by the company to date includes 6,500 *Havocs* (A-20 medium bombers), 6,855 *Skytrains* (C-47's, military version of the famed DC-3), 5,936 SBD's (*Dauntless* dive bombers) as well as several thousand four-engined *Flying Fortress* and *Liberator* bombers.

Six plants are operated at Santa Monica, El Segundo and Long Beach, Calif.; Oklahoma City, Tulsa, and Chicago.

Douglas Sees Army's Planes Busy in Europe Long After V-E Day

Visualizing a postwar Europe suffering from crippled internal transportation facilities, Donald W. Douglas, president of Douglas Aircraft Co., has told his employe-management committee members here that giant C-54 four-engined transports will make up the bulk of transoceanic air equipment needed to service the ravaged continent.

Speaking to approximately 400 key employes, Douglas said that he expected the AAF Air Transport Command and the Navy Air Transport Service to stay in business after the war in order to bring back thousands of wounded men and to expedite rehabilitation in Europe.

These problems, he explained, will require many more *Skymaster* transports than the number now in routine service for the armed forces so that Douglas employes can expect to continue building the C-54 for some time to come.

"I also anticipate," Douglas said, "that we are going to build commercial DC-4s and DC-6s in this plant. We are doing our war job, but we have also been negotiating contracts for postwar work, to be started as soon as the government permits.

"It is my further belief that we'll sell more four-engined transports to commercial operators than any other aircraft manufacturer for some years after the war if all of us continue to do a good efficient job."

Feeder Airlines Form New Body to Urge 'Integrated' System

The new Feeder Airlines Association got under way in Washington this month, electing officers and discussing plans for an extensive program of activities.

Named to head the association were Harry R. Stringer, All American Aviation, Inc., Wilmington, Del., president; William R. Kent, Southair, Inc., Memphis, vice president; Joseph J. Mitchener, Jr., Hawthorne Airways, Orangeburg, S. C., treasurer, and Bowman R. Otto, Otto Aviation Corp., Newark, N. J., secretary.

Eligible for associate membership in the association are aircraft manufacturers, aircraft accessories manufacturers, venders to the aviation and air transport industry and those rendering services to the aviation and air transport industry.

Stringer said that many aviation firms have expressed a desire to participate in the Association's program for the establishment of an integrated feeder air transportation system for the nation. A technical committee has been appointed for the purpose of working with the aircraft and accessories manufacturers in determining the proper type of equipment needed for feeder line operation. Chairman is Oliver L. Parks, president of Parks Air College, Inc., who is also well known as a champion of so-called "airparks" or small local landing fields as a combined solution to postwar jobs and future air development.

11,000 Tons of Air Imports

That's the total flown to U. S. by Army and Navy with their globe-girdling freight planes in first half of 1944; OWI tells whole story for first time

AIR CARGOES aggregating 11,000 tons were flown to and from remote corners of the world during the first six months of 1944, over the U. S. air freight system, for the benefit of the U. S. and its Allies, chiefly Russia and Britain, the Office of War Information reported this month on the basis of data supplied by the Foreign Economic Administration, the War Production Board, the Army and the Navy.

Ownership of the materials which were flown, in round figures, included: Purchases by FEA or other U. S. government agencies (including Army and Navy materials), 6000 tons; U.S.S.R. and United Kingdom materials, 3500 tons; Private purchases (American importers), 1500 tons.

These air cargoes traveled over two main routes: (1) From sources of supply in China across the Himalaya Mountains ("Over the Hump") to points of world distribution in India, (2) From Karachi, India, across Africa, the South Atlantic Ocean and South America to a port of entry in the U. S.

Participants in this worldwide air cargo program are the War Production Board, which establishes monthly air quotas and air priorities through its Interdepartmental Air Cargoes Priorities Committee; the Foreign Economic Administration, which procures certain strategic materials at their world sources, and conducts and monitors them from points of origin to ports of entry in the United States; the Army's Air Transport Command (ATC) and the Naval Air Transport Service (NATS) of the Navy, which provide the cargo space and the transportation. Private importers are also active, especially in the drug markets of South America and Australia, and in certain mineral purchases.

The reason why *all* Allied purchases in China are flown to India is because of a stubborn geographical fact. The Himalaya Mountains, the "Roof of the World," rise skyward in a gigantic barrier between the two countries. Japan, intent on isolating China from the rest of the world, began in 1931 to cut her sea communications by occupying her coastal area. For a time the Burma Road afforded a land route between China's productive interior and ports of Burma. This, too, was finally severed. Now cargoes of strategic materials make the difficult air journey over The Hump because there is no other way to get them out.

It is a route that calls for courage as well as skill. Flying at altitudes of from 15,000 to 23,000 feet in order to clear jagged peaks, buffeted by freak mountain gales, blinded by fog, iced by unexpected sleet storms, pilots of the Air Transport Command and the Chinese National Aviation Corporation (CNAC) have had to learn how to out-think and out-fight a foe that can never be disposed of by anything as simple as a machine-gun burst.

Other factors besides human courage and skill determine the rate of flow of air cargoes. The primary function of these Army transports is military. The routes, the airports, the ships exist in order to move military supplies and military personnel to active theaters of war all over the world.

The minimum schedule consists of materials, rated A-1-A down to A-4, the total of which constitutes a "must" on ATC,

NATS and the other carriers. The other raw materials, rated B-1 or lower, are really "filler cargoes." The B-1 or lower ratings are below all priorities for passengers, mail or Army and Navy equipment, and filler cargoes are carried only in whatever space may be available in the return loads of the aerial moving vans.

A special factor on the high altitude route above The Hump is important in moving large amounts of "filler cargo." A moving van on the ground does not have to carry a load to avoid trouble, but certain of these airplanes—a C-46 for example—actually need ballast. The weight and the stowage of a return load is needed to keep a ship from flying "tail-light," helps the pilot to avoid dangerous involuntary acrobatics in the grip of a sudden mountain gale.

Four main types of ships are used by the ATC as carriers for priority air cargoes: C-54—Douglas DC-4, four-engined plane; C-87—Converted B-24 *Liberator*, four-engined plane; C-46—Curtiss-Wright *Commando*, twin-engined plane; C-47—or C-53)—Douglas DC-3 type, twin-engined plane.

Main Line: Karachi to N. Y.

The "Main Line" air route, largest and most heavily traveled of all global freight airways, extends from Karachi, India, to Miami and New York, the two largest ports of entry in the U. S.

Karachi, a sun-baked port on India's west coast, two-and-a-half centuries old, enjoys immunity from floods and heavy rains, has abundant flat space at sea level, is close to oil fuel supplies, has a minimum frequency of low cloud formations. From Karachi the route crosses Africa by way of Khartoum, the fabled city at the junction of the White and the Blue Nile, where Britain's "Chinese" Gordon perished in the Mahdist uprising and Kitchener of Khartoum gained renown; a city now so British that the streets between the River Esplanade and Khedive Avenue were arranged to form the design of the Union Jack. On the west coast the city of Accra, almost the only point along the Gold Coast where horses thrive—a racetrack was laid out in its suburbs—completes the main air span over Africa.

An alternate air route connects Khartoum with Basra (about 60 miles from the Persian Gulf) and Teheran. There is also an air connection with Teheran via Cairo.

'Loop' Traverses Africa

The "Loop," a circular ATC branch route that taps Central and South Africa, extends from Accra on the west coast through Elizabethville and Nairobi, where the sun blazes on the awnings of ornate shops along Government Road and the spire of an Anglican cathedral, back to a junction with the main line at Khartoum. The "Loop" was originally brought into being chiefly to pick up shipments of tantalite, urgently needed for war production. ATC ships fly this route about twice a month.

In addition to ATC feeder ships, other lines cooperate in the movement of strategic materials from remote points in Central and South Africa. Among them is the South African Air Force. The British Overseas Airways Corporation also cooperates. So does the Belgian Sabena line.

Ascension Island in the South Atlantic Ocean, where an airport had to be blasted out of solid mountain rock, is an intermediate point on the Main Line between Africa's west coast and the bulge of Brazil.

In South America the Naval Air Transport Service enters the global air cargoes picture. Main types of ships used as carriers by the NATS are: R4D—a stripped-down version of the commercial Douglas DC-3, twin-engined plane; PB2Y 3R—Consolidated *Coronado*, four-engined flying boat; PBM—Martin *Mariner*, twin-engined flying boat; R5-D—Douglas *Skymaster*, Navy version of the Douglas DC-4, four-engined land plane; RY-2—Consolidated, four-engined land plane.

Natal Is No. 1 Junction

Natal, on the bulge of Brazil, is the most important crossroads on the Main Line. Practically everything routed from Karachi, India, and from Accra, Africa, goes through Natal. So do nearly all the mate-

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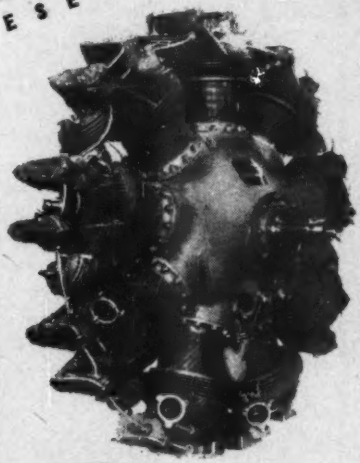

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rials that originate in South America. There are huge warehouses at Natal where backlogs of priority materials are constantly maintained.

Into Natal by rail come materials from nearby sources of supply in Brazil. At Rio, farther southward, priority materials flow into the airport by rail, by road and by river. Into Belem, northwest of Natal, special shipments occasionally arrive by way of the Amazon River.

A branch line, operated by NATS, connects Rio with Natal. Two NATS ships daily carry strategic materials northward to the Main Line. Four NATS ships a day operate from Natal to ports of entry in the U. S.

Army Does 2/3 of Job

The Navy flies about 30 per cent of the South American priority cargo load. About 70 per cent is carried by the Army's ATC ships.

From Natal the Main Line passes northwestward through Fortaleza, Belem and Trinidad, to Puerto Rico. Here the route branches. One route, in Navy seaplanes, goes overwater from Puerto Rico to New York, via Bermuda. The other, in Army and Navy planes, proceeds northwestward from Puerto Rico to Miami.

Traffic to Miami is by far the heaviest; but for the imports program, WPB regards New York as the choice airport of entry, since it involves direct air delivery of strategic materials to the areas of largest production of electronic and medical supplies.

Routes other than The Hump and the Main Line account for a relatively small proportion of strategic materials carried as priority air cargo. They include: West Coast of South America to Panama; Australia to San Francisco; North Atlantic (Portugal, Sweden and England, via the British Isles), and Middle East (Teheran to the U. S.).

The Interdepartmental Air Cargoes Priorities Committee of WPB meets several times a year, whenever it is necessary to review the blanket priorities schedule. Schedules from this committee are issued to take care of regularly flowing strategic materials. These schedules for monthly quotas and degree of priority are sent to FEA men in the field, to ATC and to NATS.

In addition to the regularly monthly quota schedules issued by WPB, Air Cargo Priority Certificates are issued to cover the flow of other urgently needed strategic materials which do not occur regularly enough in shipment to be included in the normal WPB quota and priority schedules.

These certificates go through the same distribution as the schedules, and the same priority scheme is followed. They provide FEA field men, ATC and NATS officers with all necessary information, such as procurement, weight, destination, urgency, etc.

An overwhelming proportion of air cargo hauled over The Hump, according to FEA, is then hauled by rail or by other methods to Indian ports, chiefly Calcutta, for transportation by ships as surface-carried freight. The remainder travels by air to the United States.

Materials carried over The Hump include: tin, mercury, hog bristles, mica, tantalite and drugs for experimental purposes, as well as many other urgently needed war commodities.

Tin, badly needed to build up our dwindling stockpiles, goes into tin cans, solder, Babbitt metal, brass and bronze valves and tubing for Navy ships, propellers, aircraft bearings and other wartime uses. Big bars of tin land at several airports in northeast India, are put on the Bengal and Assam Railway to Calcutta, and are then loaded onto ships bound for the U. S.

Pig Bristles Still Vital

Chinese hog bristles also make the air journey over The Hump to India. American pigs are killed for pork, too young to have time to grow the long, strong bristles characteristic of Chinese boars. These hog bristles from China are very important in the making of paint brushes for the Navy and Maritime Commission, as well as brushes used in wool combing machines.

From India, one of the richest storehouses of strategic war materials in the world, comes mica, used extensively in electronics, radio, aircraft magnetos, con-

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Looking ahead, and recognizing the need, The Manhattan Storage & Warehouse Co. inaugurated a special division for Air Cargo Packing and Distribution. All of its facilities, experience and personnel are at your disposal to provide your particular air cargo shipment with scientifically correct packing to insure lightness, strength and weather resistance.

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**Cargoes by John Masefield.*

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densers, compasses, boiler gauges and a host of other things. Indian mica deposits are in the northeast-central area—around Bihar—where native miners bring big "books" of mica out of the ground, qualify it according to grade, and split and trim it according to size. Procurement and general supervision is handled by a U. S.-United Kingdom agency, the Joint Mica Mission, which works closely with native producers and the Government of India. The mica, carefully boxed in Bihar for air shipment, is sent on fast passenger trains to the airport at Karachi. Several million pounds of this mica have been flown to the U. S., and to the United Kingdom by the RAF, since the air movement was started two and a half years ago, according to WPB.

From British East Africa comes especially large mica, used for aircraft magnetos. It is flown to the "Main Line" by British planes through the cooperation of the British Air Ministry. Similarly, the Belgian Sabena air line feeds tantalite from the Congo into the "Main Line" for use in the American electronics program. From Africa, too, are flown other rare minerals and drugs.

From South America strategic materials are flown from the rich mining areas of Brazil. For example, nearly all the quartz crystals, basis of our military communications system; a good part of the tantalite needed for our electronics and synthetic rubber programs, and a growing proportion of the much-needed mica has been moved as priority air cargo to the U. S.

Brazil Called Indispensable

From Brazil, too, comes our major supply of beryllium ore, useful for essential copper alloys and for aircraft engines; drugs indispensable in the conduct of tropical warfare; insecticides for crops, cattle and military camps.

"Without the Brazilian production of strategic materials," WPB declares, "and the bridge of planes bringing them to the U. S., our war production of top military

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items would never have been anywhere near to schedule."

From the West Coast of South America not much strategic material is flown. However, quinine and totaquine, still urgently needed in the fight against malaria, constitute priority air cargoes from this area.

From Australia come some tantalite, mica plates, and a new and rather scarce drug, used for cerebral sedatives, cardiac ailments and for inclusion in life raft and emergency kits. In spite of a relatively small flow, however, air cargoes move fast to the U. S., arriving at San Francisco sometimes inside of 36 hours after departure from Australia, according to WPB.

Sweden Is War Source, Too

From the North Atlantic area special items from Sweden, special semi-manufactures from the United Kingdom and some emergency loans from the British stockpile to meet our needs constitute most priority air cargoes.

From the Near East we sometimes get important minerals from neutral Turkey, and platinum useful for contact points in American aircraft, tank magnetos and electronics is flown from the U.S.S.R. in return for loans given by the U. S. government.

Air cargo moves swiftly and on time, its movement guaranteed by adequate priorities, because of worldwide teamwork. Mercury offers a good example of international air cooperation. Important for instruments, chemistry, shell detonators, etc., and long available from the rich mineral deposits of the Donets Basin in the Ukraine, mercury was lost to the U.S.S.R. when the Germans seized the region. When the Russians finally drove the Germans out they found that the mercury mines had been systematically destroyed. So Russia secured some supplies from Chinese mines, and WPB covered these purchases of mercury with priorities on American aircraft flying The Hump from China to India, whence they were moved by land to Russian war factories.

On the other hand, the U. S. gets platinum from the U.S.S.R. in return for previous loans, and the Russians fly it from point of origin to connect with an American air terminal in the Middle East. Cooperating with the British, WPB has given priorities on American aircraft — often above those allotted to U. S. imports— for British quartz crystals, mica, hog bristles, silk and other materials. In return, the British Air Ministry has made space on British military and commercial planes for American materials in areas where U. S. planes do not operate or are inadequate for the load. For example: a mineral from South Africa, useful for naval ordnance, silkworm eggs from Turkey for an infant American industry, communications equipment from Sweden have been flown on British aircraft for the benefit of American war plants.

This world-wide international teamwork is matched by the inter-agency teamwork of the men of the Foreign Economic Administration, the War Production Board, the Army's Air Transport Command and the Naval Air Transport Service.

WPB, constantly watching domestic production, learns from an American war plant that the supply of a certain rare commodity, obtainable, say, from South Africa, is running low. Additional raw material is urgently needed if the plant is to avoid production stoppage in the near future.

FEA, WPB, ATC Cooperate

Consultations are held between WPB, Metals Reserve Co., Defense Supplies Corp., and any other agency charged with the replenishment of domestic stockpiles. If any additional supply of domestic material is available, orders are given to buy it up.

Meanwhile, having consulted with FEA and other interested agencies, WPB issues a special certificate establishing the quota, the priority rating and the routing of the strategic air cargo. Copies of this certificate go out to all FEA field men concerned in the procurement and shipment of the desired cargo.

If the source of the material is, for example, in South Africa, the FEA air cargo officers stationed at Accra and other airports are notified. So are the ATC officers. In addition the FEA field representative at the African source of supply is informed.

The FEA field man, armed with his in-

structions, investigates the source of supply, checks on the amount and the current grade of quality available, and then purchases the material for the government. Purchase is made through U. S. Commercial Company, purchasing subsidiary of the Foreign Economic Administration.

The duties and responsibilities of FEA field men often go beyond mere purchasing. In cases where lack of efficient machinery is hampering necessary production, FEA advances the money to provide more efficient tools. If a mine should show signs of petering out, it is the duty of the FEA man to start a prompt search for new sources, and to help finance such a development whenever it becomes available.

FEA Supervises Packaging

Having obtained his supply of material, the FEA field man supervises the packaging, the labeling, and all the other details necessary to insure prompt and uninterruped shipment. The first shipment of the quota moves to an air feeder line by whatever means of local transportation is available.

The feeder airline in this case would probably be the South African Air Force. And, in this case, the shipment finds a priority waiting for it, established by the British Air Ministry, which cooperates closely with WPB. As a result of this Allied teamwork, the consignment flies northward along the SAAF route to Khartoum on the Main Line.

Meanwhile, the American air cargo officer at Khartoum has been informed in complete detail. The shipment, expedited by a high priority both from WPB and the ATC, goes aboard an ATC ship and wings across Africa to Accra, then across the South Atlantic to Natal, Brazil. From here it may finish its swift air journey to the United States aboard either an ATC ship or one of the big flying boats of NATS.

At every port of transshipment the FEA air cargo officer writes down case numbers, time of arrival, time of departure, etc. He is charged with the responsibility for lost shipments. From him a daily report goes to FEA headquarters in Washington.

Natal, as already described, is the most important junction point on the entire main line. Here is located the backlog of strategic materials ready to be forwarded to the United States in accordance with monthly quota assignments, degree of priority, and amount of return space available on the ships of ATC and NATS.

Natal Is Transfer Point

As an example of how this transshipment scheme at Natal works: An ATC man at Natal may notify the FEA air cargo officer that a plane is leaving in 20 minutes with return space available for 2100 pounds of priority air cargo. Within 20 minutes the FEA man will produce priority cargo material that weighs within two pounds of the total amount desired—the two pounds differential being the margin of error that he is allowed.

Sometimes FEA repackages material at the airport, but wherever possible packaging for air shipment is done at the point of origin under FEA supervision, rigidly controlled by instructions written into contracts for the purchase of the material.

The three necessary components of air cargo packaging are (1) lightness, (2) strength and (3) stowage factor.

Having flown northwestward from Natal, either by way of Bermuda to New York, or by way of Puerto Rico to Miami, the shipment of strategic material enters the United States. At this point it becomes the property of the Metals Reserve Company, or some other domestic stockpile agency, which clears it through U. S. Customs.

From thence it moves into a WPB allocation, and finally, into the domestic war plant that so urgently needs it.

TACA Gets 6 Planes For Latin America Use

TACA Airways has recently been assigned four twin-engine Douglas DC-2's, which will be put into service as soon as modified for use in South America, as well as two twin-engine Beechcrafts for service in Brazil. Two additional Beechcrafts were recently obtained by TACA for its new Venezuelan airline.

Burnelli UB-14, which has been in TACA's service for a number of months was flown to the U. S. last month for tests.

Beech Aircraft Sees Full Activity to 1946, Despite New Cutbacks

"We have been informed by the Army Air Forces of definite gradual cutbacks in our production," John P. Gaty, general manager of the Beech Aircraft Corporation, Wichita, Kan., declared this month. "But these cutbacks in aircraft production will actually be of great help in fulfilling our contract obligations to the Army during the next two years.

"We shall be able to retain all our present employes, and our problem of recruiting additional personnel for expansion and replacements will be minimized. Any reductions in the Army's requirements for our Model 18 twin-engine Beechcrafts will be offset by transferring personnel to our rapidly expanding production line on plane-wing construction. After adjusting for the announced cutbacks, our contracts still provide plenty of work for our present organization, plus a fair number of additional employees, up to 1946."

No reduction in the considerable amount of work entrusted by Beech Aircraft to its present subcontractors will follow as a result of cutbacks, Gaty added.

Georgians Map Future With Aviation Clinic

The Georgia Aviation Clinic, a statewide conference on all phases of aviation as they affect Georgia, will be held on October 3 and 4 in Macon. Speakers will represent federal, state and airport angles, with a section devoted to the Civil Air Patrol.

Chief emphasis will be on airport acquisition, use and development. Jennings Randolph, Congressman from West Virginia, will be principal speaker at the banquet on October 3. The meeting is sponsored by the Macon Chamber of Commerce with Major Charles L. Bowden chairman of the Chamber's aviation committee.

100% Operations Efficiency

For the first time in commercial air transport history, Eastern Air Lines has just completed two consecutive months of operations with 100 per cent efficiency. The record was made during June and July. Coordination by every department concerned, it was said, made this operation possible. Eastern's Cargo-liners carrying air express and mail are averaging 20,000,000 pound-miles per day, exclusive of air cargo regularly carried by passenger planes.

Back to civilian duties goes many a plane taken from U. S. airlines by the Army in early 1942. Above, in the Douglas Aircraft plant at Santa Monica, Chicago & Southern Airlines'* City of Little Rock *gets its reconversion completed. Already it's flying regularly between Chicago and Houston, enabling C&S to inaugurate a second daily round trip between the two cities.

LEGAL NOTES
on
Air Transportation

By GEORGE BOOCHEVER
Chairman, Legal Committee, Aviation Section, New York Board of Trade

A decision was rendered on September 9th by Mr. Justice Coyne, in the Supreme Court, Westchester County, New York, of great interest and importance to air transportation.

George Boochever

The action arose out of the death, on Feb. 22, 1943, of one Manuel Diaz, in the crash of the *Yankee Clipper* off Lisbon, Portugal. The executors of Mr. Diaz' will sought to recover the sum of $775,000 for his death, on behalf of his wife and children, while Pan-American Airways is seeking to limit its liability to $8,000.

The complaint alleges six causes of action for wrongful death, and one for the loss of baggage and effects.

The answer set up five defenses, and the decision was made in connection with a motion by plaintiff to strike out three of the defenses as sham, irrelevant and insufficient. In each of the defenses at issue, the defendant invokes the provisions and limitations of the Rules Relating to International Air Transportation as established at the Warsaw Convention on Oct. 12, 1929, to which convention the United States, by Presidential proclamation, subsequently adhered.

The Court held that, under the facts and the law, he was impelled to reject plaintiff's contention that the treaty resulting from the said Convention is unconstitutional, and the further contention that the provisions are without force and effect, in the absence of implementing legislation.

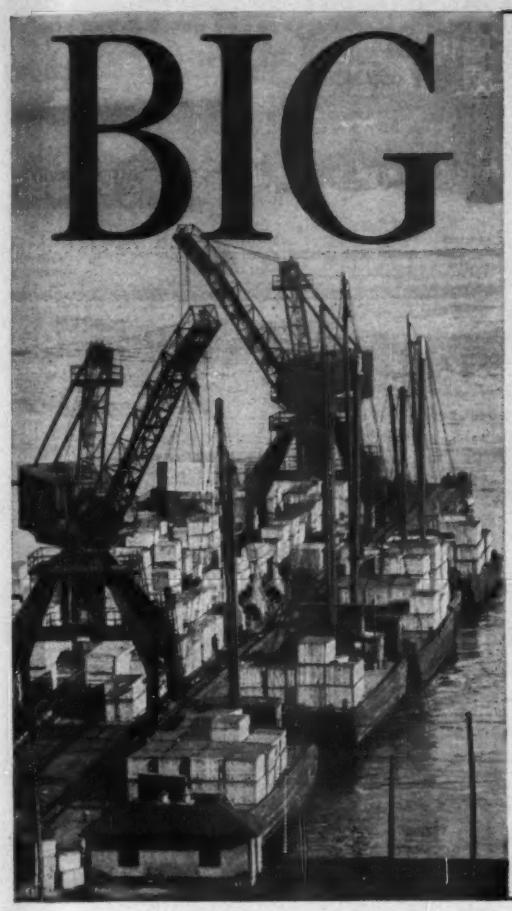
The plaintiff, in support of his motion, contended that the Rules formulated at the Warsaw Convention were inapplicable to the present action, because, plaintiff contended, the transportation involved was not international in its nature. Plaintiff consequently argued that the rules promulgated at the convention were inapplicable and the defenses based thereon were insufficient and sham.

The Court said that the convention rules are expressly declared to be applicable only to the International Transportation of persons, baggage and goods. The term "International Transportation" in so far as it is pertinent to the present motion, is defined therein as any transportation in which, according to the contract made between the parties, the place of departure and the place of destination are situated within the territory of a single high contracting party, if there is an agreed stopping place within a territory subject to the sovereignty, suzerainty, mandate and authority of another power, even though that power is not a party to the convention.

The Court held that in determining the international character of the transportation allusion must be had solely to the provisions of the contract entered into between the parties. On examining the contract, it appeared to the Court that New York is designated as both the place of departure and the place of destination, with agreed stopping places at territories subject to the sovereignty of other powers. The Court, accordingly held, that the carriage, in the present instance, was explicitly within the meaning of "International Transportation," as that term is defined in the Rules.

The Court further held that the severability of flights is not the criterion or the gauge for measuring the international character of the transportation within the meaning of the definition, and that the terms of the contract, alone, control. The Court, therefore, denied the contentions of the plaintiff in all respects.

Continental Air Lines flew 2,512,571 passenger-miles during July—a seven per cent increase over June. Number of passengers was up 21.69 per cent. The line recorded a 13.6 per cent increase in the weight of air express carried.



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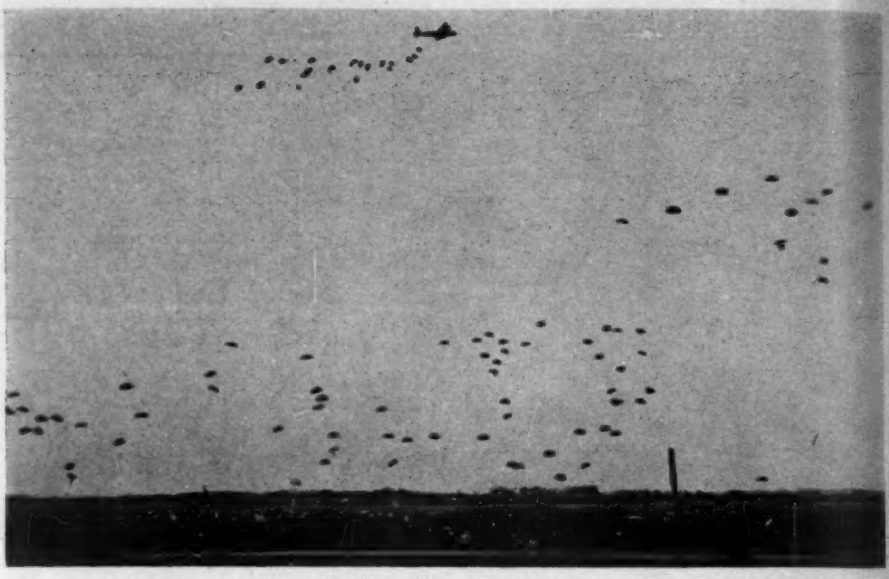

Supplies being dropped by parachute from British Stirling bombers.

Cargo Shuttle to Normandy

Epic performance by RAF's Transport Command moved 1,100 tons of war cargo after D-Day, evacuated 18,677 wounded to Britain

By Squadron Leader E. Fletcher Allen,*
RAF Transport Command

NOW that the Allies in Normandy have long since broken out of the beachhead into open country, and the Battle of France is all but over, the story can be told of how Transport Command of the Royal Air Force played a spearhead role in the invasion.

All commands of the RAF and other fighting services learned many lessons from the six weeks' invasion period from D-Day to July 18—when Montgomery broke through the German beachhead barriers. But none will go down in the textbooks as more important or more interesting than the lessons learned from the role played by the Trasport Command. It was a new role, much of it completely new in any British war theater.

Until this year the RAF Transport Command has performed the more obvious functions of the organization, but a few months ago a special group of the Command was formed for specific duties in

* Squadron Leader Allen is Public Relations Officer of the Transport Command of the RAF and has been in the air force since the outbreak of the war.

connection with the invasion. Its main function was to act as an airborne, forward supply unit to the land forces after the invasion had been effected and when fighting for the beachhead had begun.

In the first instance, however, these transport aircraft were to carry into France huge numbers of paratroops and to tow many glider-borne troops. The transport of supplies was to follow, and a third role was the air evacuation of casualties to hospitals in Britain.

Intensive training of the transport crews had to be undertaken, and extensive modifications made to the transport aircraft, with little time in which to do either. But the group was fully prepared well in advance of D-Day.

Before night had properly set on June 5, great numbers of Transport Command aircraft were off the ground fulfilling their first task. The pilots had been briefed with meticulous precision, for it was essential that gliders should be castoff and landed, and paratroops dropped, at exact pin points on the Normandy landscape—from the correct height, and at the precise minute.

Despite the fact that it was quite dark by the time the French coast was reached and visibility was reduced by low cloud and smoke haze from the heavy bombers' shattering of enemy coastal batteries, the pilots' briefing schedule allowed scarcely one-and-a-half minutes for the dropping areas to be located.

D-Day Loss: Only Two Planes

Yet all the pilots succeeded in delivering their human cargoes, and within two or three minutes of crossing the invasion coast, they were streaking out of France again to return and start another mission. Throughout that night's hazardous operations, only two of the group's aircraft were lost, and three others damaged.

The transport pilots' second role started hard on the heels of the first. Vital supplies were soon streaming across to the fighting men in continuous chains of capacious *Dakotas*. Jeeps, trailers, six-pounder guns, motorcycles, bicycles, mortars, mortar bombs, food, medical stores—especially blood plasma—were urgent and essential consignments.

At first the supplies were dropped by parachute, or were towed over in gliders and landed as best they could, but soon landing strips were being laid down to accelerate deliveries. A Transport Command aircraft was the first to land on, and take off from, an airstrip in the Nor-

One week after D-day, WAAF nursing orderlies and medical supplies were being flown to France by RAF Transport Command planes to care for wounded destined to be flown back to Britain. Photo was made in France.

British paratroops en route to Normandy, June 6, 1944.

mandy beachhead. It was between Caen and Bayeux, and the pilot had to "waggle" his wings to get in without hitting the balloon cables that were guarding Allied shipping not far distant.

Truck Flies Across Channel

Before long aircraft of the group were landing regularly, and the quantity and variety of the supplies they were able to take to France rapidly increased. On one occasion a one-and-a-half-ton truck and trailer were flown across, and on another some 17-pounder guns.

The third task, bringing back Allied wounded, began as soon as it was possible for aircraft to land in Normandy. From a small beginning on June 12, when eleven men were evacuated successfully, the service came into full use by June 15, when 114 wounded were brought back. On the 16th the number was 235, on the 17th 258, on the 18th 406, and on June 30 as many as 683 were evacuated. The largest number of wounded evacuated by air in one day, so far, has been in excess of 900. Fortunately, serious casualties in Normandy were too low for this figure to be maintained.

The task of evacuating these men has worked smoothly. Men injured in battle one day are comfortably in bed in an English hospital the next—sometimes, indeed, on the same—day.

In the ten-week invasion period to Aug. 15, the RAF Transport Command Group responsible has taken to Normandy over 1100 tons of war supplies and medical stores, and brought back some 18,677 wounded—including a small number of Naval and RAF personnel in addition to British and U. S. Army casualties. A daily average of two tons of mail has passed each way on the same aircraft.

Development of the Transport Command's role in the invasion sometime ago reached the stage where operations in Normandy are organized in the same manner as in Britain. Staging posts for the handling of freight and passengers are well established, the servicing of aircraft is adequate, and a comprehensive medical service is in operation to attend to wounded awaiting evacuation to England.

Speaking at one airbase in the group, shortly after D-Day, Sir Archibald Sinclair, Britain's Secretary of State for Air, told aircrews that they had played an indispensable part in the invasion, and had given a magnificent start to the battle.

Postwar Airways Beckon

New surveys of public opinion reflect vast potentials ahead for all types of transportation by air; future seen as increasingly bright

PROBERS of opinion were busy, this month and last, on many fronts. But none of these fronts—outside of the coming Presidential election—seemed to attract so much attention in surveys as that of air transportation. And the results in all of them pointed inexorably to an era of vast progress in every sector of air transportation.

Most far-reaching of the new surveys was that of Crowell-Collier Publishing Co., publisher of *Collier's, American Magazine* and *Woman's Home Companion.* But many equally notable findings came from a new study released by Time, Inc., publisher of *Time, Life* and *Fortune,* from a tabulation of 1,378,000 questionnaire returns by American Airlines, and from a special check of women's opinion by *Woman's Home Companion* conducted separately from the bigger Crowell-Collier study.

Meanwhile, what is said to be "the most comprehensive survey on *travel and recreation* made during recent years" was nearing completion this month in the research department of Charles W. Hoyt Co., Inc., New York advertising agency, based on 28,000 questionnaires distributed in the area bounded by Richmond on the south and Chicago on the west, and embracing the Eastern seaboard and Canada.

"We are seeking postwar travel trends," declares Everett W. Hoyt, president of the agency. The Hoyt questionnaires have gone to lists of known travelers, furnished us by leading steamship lines, railroads, airlines, tourist bureaus and the like. It is expected that this survey will be completed and tabulated by next month.

"*Tomorrow's Customers for Aviation,*" the study just released by Crowell-Collier, covers two important phases of the coming air age—the market for air passenger transportation and the market for personal planes.

So far as the airlines are concerned there is clear evidence that postwar growth will be rapid. Findings indicate that three times as many people will use the airways as have done so in the past. There will be a demand for foreign as well as domestic transportation. Europe and South America will be so close to us by air that they will open up entirely new travel patterns.

Concerning the future of personal planes, there is much great speculation. A great deal depends on the ability of industry to supply types of planes that the public can fly safely and economically. Another important factor will be education of the public to the pleasure and utility of flying. The younger generation, the survey reveals, is well informed aeronautically, but older people are obsessed with notions of the difficulties and dangers of flying, and regard it as a strictly youthful activity. In general, the appeal of flying combines both glamour and utility. So far as personal planes are concerned, glamour is in the ascendancy just as it was in the early days of the automobile which changed from a "pleasure car" to a necessary vehicle for business and family life.

Various researches and analyses have established the primary aviation market as composed largely of the upper-middle and top income urban people. This market buys 70 per cent of all urban automobiles. Crowell therefore concentrated its study on these groups, engaging Psychological Corp. to interview more than 2000 civilians from the upper income half of the urban population. To supplement the civilian study a group of 500 Army and

Navy fliers were interviewed about owning their own planes after the war.

Since air transport lines will grow in proportion to their attraction of new customers, an important question on the Crowell questionnaire was: "What led you to make your first airline trip?" Among the reasons given, pleasure makes up the largest group—44 per cent of those interviewed. This figure includes "curiosity," "sightseeing," "pleasure" and "convenience." It is quite natural that curiosity and pleasure would be important as the initial lure. When one combines "speed," mentioned by 23 per cent, with such reasons as "business" and "emergency" which were reported by 21 per cent, then the time-saving factor will equal the pleasure-curiosity factor (44 per cent). Thus, glamour and utility compete equally for the new airline prospect.

Airline Travel Will Gain

The findings of the survey point up the accelerating growth in air travel—50 per cent of the respondents made their first trip during the past five years. Women show more recent increase in use of air travel than men. More than half the women who have flown have done so in the last five years. Thus women are being rapidly won over to air travel, a fact that has important implications for postwar commercial aviation. Looking at this impressive market growth from the standpoint of postwar intentions, *only* 23 *per cent of the people interviewed had traveled on airlines in the past, but* 65 *per cent expect to in the future.* Almost as many women (62 per cent) as men (68 per cent) expect to use the airlines after the war which offers another indication of the extent to which women's resistance to air travel is disappearing.

Airline expansion seems certain. Of major importance to the future of aviation, however, is the private plane which represents the unknown—and potentially the greatest—market for the industry. Private flying never developed to any marked extent in this country prior to the war. In the peak year 1942, only 24,836 planes were registered.

To determine the public attitude toward personal planes and private flying in the postwar period, the Crowell study probed such points as the desire to pilot a plane, desire for plane ownership, purchasing intentions, and the kind of plane desired. The resulting data show that of those civilians who have never piloted a plane, 39 per cent want to learn to fly some day. Men more so than women (46 per cent to 33 per cent. Almost seven out of ten (69 per cent) of the youths (18-24) want to learn to fly, compared with 12 per cent of those over 55 years.

The degree of interest in owning a personal plane ranges from one per cent who are actually planning to buy an airplane first (before any other major purchase) after the war to 48 per cent who expressed some desire to own a plane or a helicopter in the future. Of men in the Army and Navy air forces surveyed 85 per cent say they want a plane of their own, with an additional six per cent who might be interested under favorable circumstances.

American Airlines, Inc., presented its study to the Civil Aeronautics Board in Washington on Sept. 7 through Charles A. Rheinstrom, AA's traffic vice president. There was unanimity among air travelers probed by this study on one timely point *—that American will prefer to ride on airlines flying the American flag in overseas flights.*

The survey, initiated by American 11 months ago, reveals national interest in the subject of air transportation. In addition to 1,378,434 reactions to questions asked in the American Airlines' questionnaire booklet, *You—and Postwar Air Transportation*, thousands of unsolicited letters were received.

Mammoth Planes Not Favored

In view of the widespread conjecture in recent months concerning the size and shape of transport planes of the future, it is significant that in response to the question, "Do you favor mammoth airliners?" 84 per cent said "No," but indicated an interest in slightly larger and faster equipment.

American's question on travel to foreign countries established the British Isles as first choice; Continental Europe, second; and other Americas, Russia, Mexico and Scandinavia ranked in that order and revealed that air travelers look to air transportation as a means by which they can select their climate for weekends and short vacations, as well as for longer jaunts.

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Forms for January, 41st Annual Edition, close December 10th

The question regarding service, always an important consideration on the part of air travelers, disclosed that the consensus is overwhelmingly in favor of stewardesses aboard all flights and also a continuation of the present food service—meals without extra charge.

In the way of "extras" the survey produces interest in two diversions: individual radios, and illuminated trip-progress panels indicating names of cities being flown over. Ship-to-ground communication for passengers, a library of current books in addition to the magazines now available and a ticker news service are among other conveniences suggested.

Regional Airports Get Vote

The survey also showed that four out of five replies favor strategically-located regional airports serving several neighboring communities as against separate local airports for each community.

On the time of day at which people desire to use air transportation the study showed that among pleasure travelers 62 per cent preferred daytime flights and for long trips 38 per cent of this same group preferred night flights. Business travelers, however, indicated a 64 per cent preference for night flying.

Time Inc.'s Service on Postwar Information, in *Tomorrow's Tourist*, a general forecast of postwar travel trends, reports answers to a questionnaire by 401 travel agents.

The Time Inc. study reveals that while 11 per cent of travel agents anticipate that *as much as 50 per cent of all travel will be via plane*, most agents believe the steamship will be in greatest demand as tourist transport. On the other hand, railroad plans for increased comfort, speed, and service, couple with low rates, may boost tourist train travel.

Travel agents, says Time Inc., think transatlantic air routes will be patronized mostly by the business traveler. Two-week vacationers with a yen for Paris will be forced to the air but they will hardly form a large part of European tourism.

One view is that no great volume of Atlantic passenger air traffic can develop until present fares are cut in half. At the present time, Department of Commerce authorities see a probable 20 per cent reduction in air travel rates soon after the war. And William A. M. Burden, Assistant Secretary of Commerce, has optimistically predicted that airline passenger fares can be cut 30 per cent below Pullman travel fares in the first postwar decade.

New Customers In View

Getting down to cases, Pan American Airways has published a hypothetical timetable for 1948 setting the New York-London round-trip fare at $186.30. Edward Warner of the Civil Aeronautics Board foresees a possible postwar rate of 2½c. per passenger mile as compared with present-day rates at 5.1c. Should such reduction take place, traffic would inevitably change its tone and draw larger number of middle-income travelers. Many travel agents are aware of this, and most who anticipate a high percentage of air travelers qualify their expectation with reference to the necessity of lowered fares.

The Woman's Home Companion Continuing Opinion Poll reveals important attitudes of American women toward postwar aviation. Some women, of course, have been flying for years as pilots and passengers. But the average woman had little chance to do these things before the war. With cheaper passenger rates and easier opportunities to own and fly an airplane, Mrs. America will have this chance after the war.

To measure the American woman's acceptance of aviation as an integral part of her postwar life the *Companion* last month asked its representative national panel on which the Opinion Poll is based four key questions. The overall results prove definitely that women want to fly. Broken down by age groups, the enthusiasm for flying and learning to pilot their own planes rises to a big majority among the younger women.

South America Trips Favored

To the question, "If airplane flights to Europe cost $200 round trip after the war, do you think you will go?" the *Companion* found 51 per cent of its women answering "Yes." Of those aged 45 and over, an impressive 34 per cent answered in the affirmative.

Sixty-four per cent of the total said they would be interested in flying to South

If airplane flights to Europe cost $200 round trip after the war do you think you will go?

	Total Response*	Under 25	By Age Groups* 25-34	35-44	45 & Over
YES	51%	68%	56%	49%	34%
NO	46%	30%	41%	46%	64%

Would you be interested in flying to South America after the war?

	Total Response*	Under 25	By Age Groups 25-34	35-44	45 & Over
YES	64%	80%	70%	64%	44%
NO	35%	19%	29%	34%	55%

Would you have any objection to a member of your family owning a plane after the war?

	Total Response	Under 25	By Age Groups 25-34	35-44	45 & Over
YES	12%	8%	12%	12%	15%
NO	88%	92%	88%	88%	85%

Have you any desire to learn to fly some day?

	Total Response*	Under 25	By Age Groups* 25-34	35-44	45 & Over
YES	39%	65%	46%	32%	16%
NO	60%	34%	53%	68%	84%

* One to three per cent answered "don't know" to the various questions

Table shows women's reactions as reflected in* Woman's Home Companion's *Continuing Opinion Poll on the postwar air.

America after the war, while 88 per cent said they would have no objection to the ownership of a plane by a member of their family. Thirty-nine per cent of the *Companion's* female panel confessed a "desire to learn to fly." Broken down by age groups, 65 per cent of those under 25 said they wanted to learn, 46 per cent of those between 25 and 34, and even 16 per cent of those 45 and over remained in the "Yes" column.

Readers of AIR TRANSPORTATION *who wish to obtain more detailed data on any of the surveys covered in the foregoing pages are invited to write to the Editors, who will be glad to pass on their requests.*

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Meet . . . Jim Ray

Vice President, Southwest Airways Co.

JAMES G. RAY—or Jim Ray, as he's known throughout the industry—has personally flown and supervised the flying of many millions of miles in the 27 years since he earned his wings as a World War I pilot. But few have been more important than the million just completed by the Cargo Division of Southwest Airways, under Jim's active supervision as Southwest's vice president.

During the past 21 months, a hand-picked crew of Southwest employes have built up in excess of 1,000,000 miles of experience in feeder airline operation for the AAF's Air Transport Command and Air Service Command. For Jim, Southwest Airways and the industry as a whole, it has afforded an unprecedented opportunity to solve many of the dozens of operating problems that might otherwise have slowed postwar expansion of air transportation to the nation's smaller cities and towns through feeder airlines.

Feeder Airline Champion

Jim is no greenhorn in the matter of having a part in aviation pioneering. On his return from the service after the last war, he tested and exhibited many of the experimental models of the Curtiss Exhibition Co. which were to be the forerunners of today's high speed aircraft. Later, he was to head operations for Pitcairn Aviation at the time its air mail routes were established from New York to Atlanta and Miami—the route which afterward became the Eastern Air Lines system.

Air transport temporarily lost Ray to rotary wing development in 1928, when he took an active part in the activities of Autogyro Co. of America. Through almost nine years he traveled to all parts of the world, studying and test flying autogyro models, to the extent that he stands high among all U. S. pilots both in total hours flown in rotary wing aircraft and in models of that type flown. He still counsels frequently with groups interested in helicopters, and in the past year has flown a considerable number of hours in several helicopter models now in military use.

Early in 1939, Ray returned to scheduled air transportation as an executive of All American Aviation, Inc., heading the operating division as that company established air mail pickup service. Six Eastern states still reap the benefits of vastly-improved postal service as a result of this pioneering venture, and military aviation, too, has made good use of the pickup gear which Ray actively helped to devise and improve.

In December 1941, Southwest Airways obtained Ray's services as its vice president. In little more than one year thereafter, Southwest had filed applications with the Civil Aeronautics Board for feeder airlines both on the Pacific Coast and in the Southwest, and had its aforementioned cargo division in operation on the Coast.

The company's cargo activity obviously was not established by the military sim-

ply to give Southwest Airways practical feeder airline experience, although there's no disputing that it has. For the 21 months from the beginning of operations until ATC had sufficient personnel and equipment to resume all of its own domestic air cargo carrying, the record reads like this:

More than 87,500 shipments, representing 2,036,448 pounds of highest priority Army freight and mail, flown on 2,961 separate flights for a distance of 1,124,575 miles. Army supply depots and subdepots served ranged in distances apart from 16 to 154 miles and averaged 66½ miles. More than 28,000 landings and takeoffs were made at military airports at which Southwest's converted C-72 aircraft flew in traffic ranging from light liaison and training planes to latest model pursuit and four-engine equipment.

Yet in all of this operation, there was neither loss nor damage to a single ounce of cargo, major damage to company aircraft, nor injury to personnel.

To name just a few of the basic feeder airline problems which Southwest's Cargo Division staff, under the guidance of Jim Ray and other company executives, have successfully met and overcome:

Maintenance of comparatively high scheduled speeds despite the making of frequent landings; reducing time lost per landing from 35 to six minutes through developing of special operating procedures; re-designing equipment to withstand the rigors of frequent landings, long taxi runs and crosswind landings; the feasibility of obtaining a high percentage of operating efficiency with year-'round contact flying and a minimum of instrument flying; the special training required for maintenance, communication, dispatching and flight personnel.

For Jim Ray, feeder-airline-minded Southwest Airways, and an industry and nation now actively cognizant of the need for an expanded U. S. air transport system—it's been quite an interesting 1,124,575 miles, no question about that.

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IT'S AN Air WORLD

(Trade Mark)

By L. A. GOLDSMITH, *Economic Analyst*, AIR TRANSPORTATION

A new air commuting service is about to be established, permission having been granted by the Civil Aeronautics Authority. This will operate under the name of the Pickair Seaplane Service, with headquarters at Ossining, N. Y. Charles Lo Picolo is owner and operator.

Commuting by Air From Albany to Wall St., Delayed by Hurricane

If it had not been for this month's Atlantic hurricane, the new service, using seaplanes, would already have been started from New York to Albany. But the elements dictated otherwise. Therefore, the beginning of the Pickair service has been delayed till possibly around Oct. 15. It will be a continuous daily service, with planes starting once every hour from stations at the foot of Wall St., 79th St. and the Hudson River, Yonkers, Dobbs Ferry, Nyack, Tarrytown, Ossining, Peekskill, Beacon, Newburgh, Poughkeepsie, Rhinebeck, Kingston, Catskill, Hudson and Albany.

Twenty pilots will service the route, all qualified instrument fliers who have had years of experience in military flying, most of them having been just recently released from Army or Navy service. Fares will be only slightly more than railroad fares and the time consumed, of course, will be considerably less.

For regular commuters there will be a local service from Peekskill to 79th St., where many people will get off for midtown bus and subway connections. It will take about 20 minutes from Ossining to 79th St. and an additional six minutes from 79th St. to Wall St. The return trip north will require the same time.

There will be express service from New York to Albany. It will start from Wall St., making a stop at 79th St., which will be the main New York terminal. From 79th St. the Express will be non-stop to Albany in approximately one hour, or one hour and ten minutes from Wall St. There will also be express service from New York to Peekskill—30 to 35 minutes.

Now a word about the owner of this new and enterprising service, Charles Lo Piccolo, a young man who has been in the aircraft business and service operations for 10 years. For the past few years he has been a technical representative of the U. S. Army Air Forces in various parts of the world—in the North Atlantic, Middle East and even as far away as Karachi, India. He has supervised and handled work at airports in Cairo, Iraq, Iran, and at Abadan. Previous to being in the Army he had his own school of flying and he intends to continue his flying schools at five of his seaplane bases, headquarters of which are at Ossining.

The recent report on air cargoes released by OWI [*see Page 27*] covered a tremendous number of interesting facts and is being handled in detail elsewhere in this issue of AIR TRANSPORTATION. Paint brushes and pig bristles seem a far cry for the need of air priorities on the famed air route "Over the Hump" from China to India. But as we all know, pig bristles are needed for paint brushes and paint brushes are likewise very much needed to paint the new Liberty ships coming so swiftly off the ways by the hundreds. We have, of course, plenty of little pigs ourselves in the U.S.A., but that's just the rub—they are *too little and killed too young* to have bristles strong and tough enough to withstand paint brush requirements, whether for ships of the Merchant Marine, Warships or other Navy vessels. Therefore the urgent need for air priorities to fly them over the hump from China.

Pig Bristles Accorded Priorty Air Transport Over the Hump to India

Then there is mica. This is so important as a strategic war material that the U. S. and the United Kingdom have had to set up a Joint Mica Mission in India in order to see that

as much mica as possible is shipped. In addition, large mica sheets for aircraft magnetos are flown from British East Africa. All of it is flown here under the well-organized, global teamwork of air priorities worked out between the U. S. and other United Nations.

Mercury for Russian Shells, Mica for Aircraft Magnetos Also Receive Air Priorities

It is a very interesting point for future world trade relationships to realize what has been accomplished in air cargoes during this war. Take for instance the situation in regard to mercury. The Russians had their own mercury in the Ukraine. But after they had driven the Germans from this region, they discovered that the Teutonic "master race" had systematically destroyed the mines. In order to supply Russia's needs for shell detonators, chemistry and various types of instruments, it was necessary to secure mercury from somewhere. The nearest point was the Chinese mines. The only way to get this material from the Chinese mines to Russia was for our own War Production Board to issue priorities on our American aircraft.

There were a number of angles touched upon in this report which highlight the importance of moving materials rapidly by air and which can very well be applied to our peacetime postwar air cargoes. This is especially true when it comes to materials which are light in weight and yet important for use as raw materials in other types of merchandise.

Reading advertisements, either of the airlines or companies who have nothing to do with aviation, brings home to anyone interested in this subject that the industry has certainly taken hold of the imagination of the American public.

That Dealer in Rio— or Oslo or Anywhere Else In the World— Will Be Only A Few Hours Away by Air

A recent advertisement under the composite sponsorship of The Air lines of the United States seemed to me very impressive and worthy of passing along to the readers of this magazine. The advertisement shows a fisherman-vacationist taking his ease fishing. This is headed "Change My Way of Life? I Wonder . . ." Above his small fishing craft he sees in the far distance a huge airliner, and he is depicted as musing aloud as follows:

"Sure, the airplane's making the world a smaller place to live in. But when they say it's changing my *personal* way of life, I wonder how much. . . .

"But . . . come to think of it . . . I wouldn't be getting this much-needed weekend of rest if I hadn't come home from my last trip by air. If I hadn't flown, I wouldn't have had the time to spare from our plant's war production problems, no matter how tired I was.

"Change my way of life? I guess it's already happened! Looking back on it, for years I've been able to get around more, sell more, learn more, see more . . . Yes, and like today . . . *live* more—thanks to the airlines.

"And that big ship up there gives me another idea. When this war is over, there's a dealer in Rio I'd like to call on and one in Cairo and one in Oslo. *That* certainly will do something to my way of life all right . . . and to my firm's way of doing business, too!"

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New York Gets Busy

Port Authority Moves for CAB Approval of Gotham as Terminus for Nine Major Routes to All Parts of Latin America

The Port of New York Authority took a long stride this month toward a major role in postwar hemisphere air traffic by recommending to the Civil Aeronautics Board that nine "basic routes" between New York and Latin American points be authorized.

Walter P. Hedden, director of port development, and James C. Buckley, economist for the Authority, said that they were ready to support applications of air and ship lines for "permanent certification of such routes."

They told CAB that the routes they advocated ranged from seven to nearly 50 per cent shorter than the routes now flown and declared New York "the natural gateway and terminus for trade and travel to and from Latin America." Naturally, southern and southeastern cities, principally Miami and New Orleans, with plenty of geographic advantage of their own, didn't take all this lying down.

The whole discussion took place on the opening day of a CAB hearing on applications from 21 airlines for permission to serve U. S.-Latin American routes.

Buckley called for "more frequent and more efficient" air service between the New York Port area and Central and South America. Failure to establish direct service might result, he held, in a major advantage to foreign air carriers.

Exhibits attempted to show that per-pound value of trade between New York and Latin America is more than one and a half times as large as the per-pound value of trade between the rest of the U. S. and Latin America and that the New York district tops the nation by far in waterborne passenger and mail traffic "which lends itself to diversion to air transportation."

Col. B. C. Allin, director of the Greater Miami Port Authority, urged CAB (*see also page 52*) to remember Miami as an international air gateway. All air traffic from the U. S. to Latin America, as well as to South Africa, should be cleared through Miami or other southern ports rather than be flown non-stop from New York, except when navigational problems make it inadvisable, he insisted.

Tampa, citing its claim to be "commercially and geographically" qualified to handle foreign air traffic, threw at Miami the charge of "monopoly." Other cities offering exhibits included Kansas City, Houston, Dallas, Fort Worth, New Orleans, Jacksonville, Tulsa and Charleston.

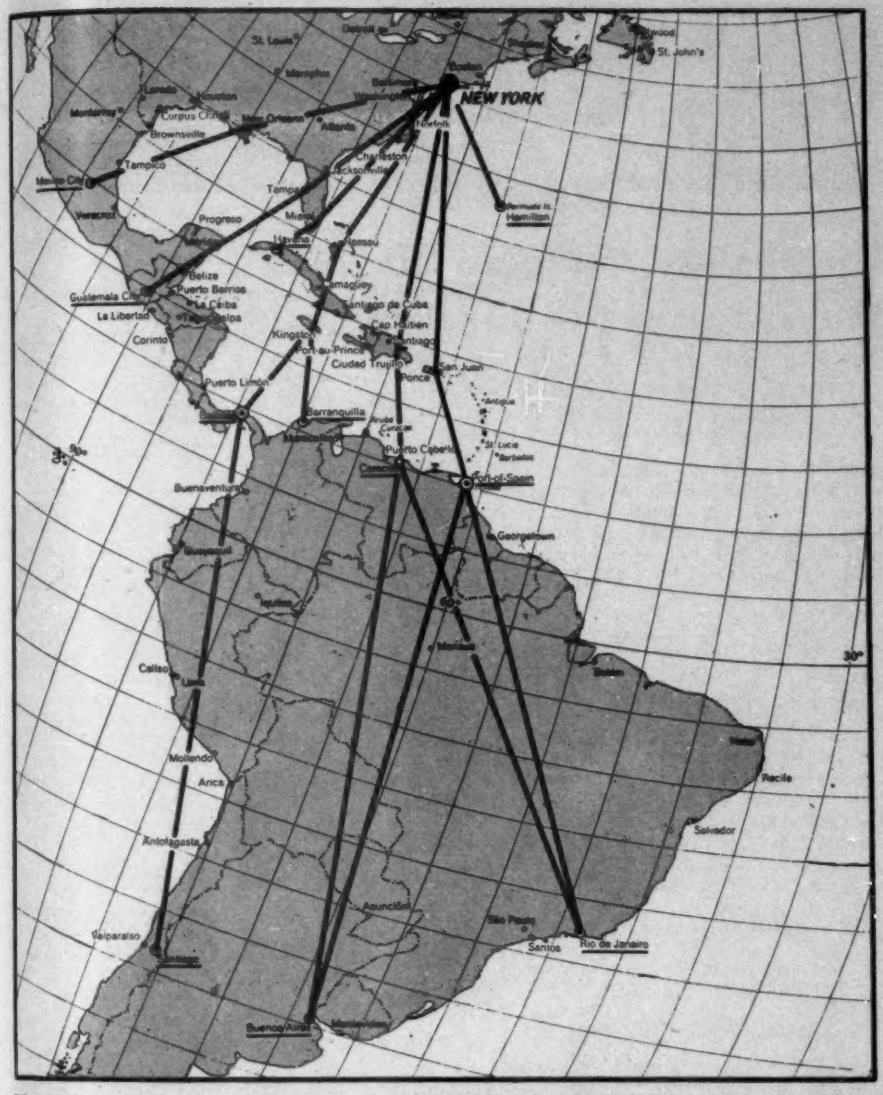
Routes urged by the Port of New York Authority include:

1. New York District and Bermuda—That two or three applicants be certified in addition to Pan American, which now holds a permanent certificate, the choice to be from American Export Airlines, Colonial Airlines, International Airways and Moore-McCormack Lines.

2. New York and East Coast of South America via San Juan, Puerto Rico and Port of Spain, Trinidad—Pan American between New York and San Juan. Moore-McCormack between New York and the east coast of South America via San Juan and Port of Spain. Also, between New York and San Juan, for additional "local" service, American Export and/or International.

3. New York and East Coast of South America via Caracas Gateway—Pan American and possibly Eastern Air Lines to the east coast of South America via Ciudad Trujillo and Caracas, with New York instead of Washington as the northern terminus.

4. New York and Barranquilla, Colombia—Grace Line via Nassau, B. W. I., and Kingston, Jamaica.



Map shows the nine direct air routes between the New York district and Latin America proposed by the New York Port Authority

5. New York and West Coast of South America—No application on file, but approval is urged of applications of Grace Line for route between New York and Balboa and of National or Eastern for service between Miami and Balboa, if it is non-stop.

6. New York and Nassau—International and/or Moore-McCormack.

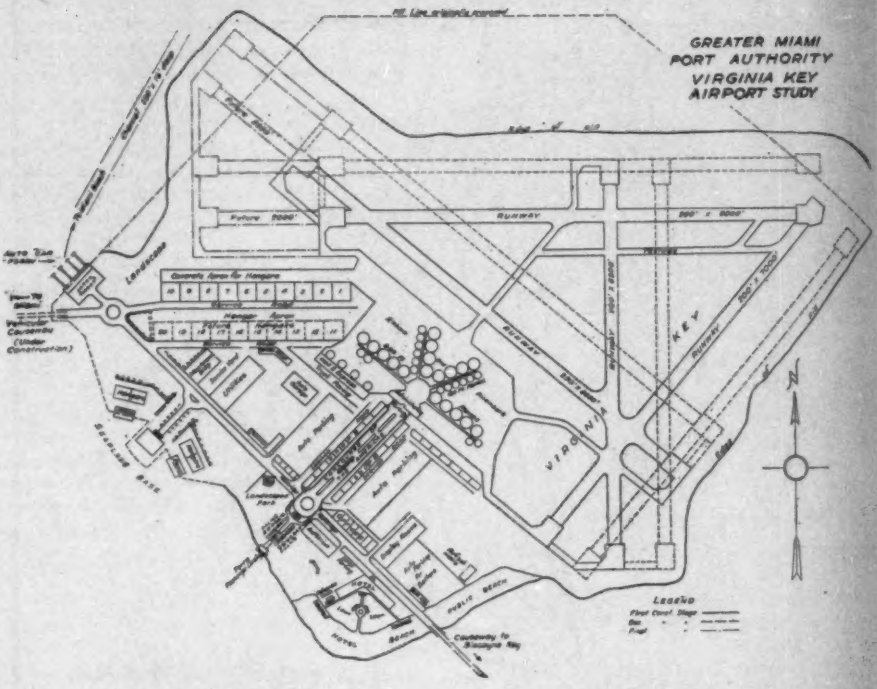
7. New York and Havana—International and any two of Colonial, Eastern, National.

8. New York and Central America—Application urged, none on file.

9. New York and Mexico—Eastern.

(*Trade Mark*)

Miami Port Authority Mapping World Airport to Rival Idlewild



While postwar airport programs have been announced from many sections of the country, the leading wartime port for international travel—Miami—has been silent. Pan Am, TACA, KLM, several lesser overseas lines, the domestic Eastern and National Airlines, together with vast Army and Navy transport services all have been operating in and out of Miami to an aggregate traffic total only partially revealed for military reasons.

Now, however, Col. B. C. Allin, recently appointed director of the Greater Miami Port Authority covering both surface and air transportation, has announced Miami as steadily advancing with its great new island seaport-airport development known as Virginia Key.

The Virginia Key project comprises not only the latest technical improvements as advocated at conferences with the U. S. Corps of Engineers, the Civil Aeronautics Administration, and the airlines, but will be a spectacular showplace facing on the Atlantic on one side and Biscayne Bay on the other. The seaplane base will be on the bay side.

A public causeway already is being built to the island and later there will be a large

recreation park and exclusive residential island to the south connected by another bridge. Car ferries lead directly to Miami and Miami Beach.

The island's total area will be 1,800 acres and the main technical feature will be two 10,000-foot runways such as have been described as distinctive to New York's Idlewild. There is room in the design for more such runways when traffic requires. There will be 20 hangars and a large area for maintenance purposes, together with dormitories for flight personnel. The administration building fronting directly on the loading and unloading ramps will be approximately 750 feet long. Turning tables are laid out for 34 planes with space for the widest wingspreads now contemplated.

These operating items will be first in order of construction. Auxiliary buildings and facilities to follow or proceed simultaneously as materials become available include an international hotel with private beach, a half-mile terraced "Concourse of the Americas" with a double 100-foot driveway in the middle, areas for offices, shops, display rooms and Government agencies.

"In addition to being an airport in the technical sense of the word, Virginia Key will become the diplomatic gateway to the entire Southern Hemisphere," exulted Colonel Allin as he released the first drawings for his new program.

The Greater Miami Port Authority, under whose jurisdiction the construction and operation of the project falls, was created by an act of the Florida legislature last September after a popular referendum.

3rd Municipal Airport Now Planned by New York

New York's Mayor LaGuardia is quoted by officials to the effect that the city will purchase land in the Bronx after the war for a third municipal airport.

The proposed site, bordering the Hutchinson River in the northeast Bronx, takes in East Boston Road, Allerton Ave., Chester Ave. and Curtiss Ave.—roughly six and one-half miles from LaGuardia Field.

The land is now owned by Curtiss-Wright Corp., which a few weeks ago informed the Public Service Commission it had dropped plans to build there.

Port Authority Executives Talk Aviation in October

Representatives of more than 80 Canadian and United States Ports will discuss war-time and post-war problems and inspect military harbor facilities in New York City when the American Association of Port Authorities holds its annual meeting at the Hotel New Yorker October 10, through Friday, October 13, announced Walter P. Hedden, President of the Association. Prominent Government, Port, Shipping and Aviation officials will take an active part in the discussions.

One of the highlights of the three-day meeting will be an address on Post-War Air Transportation by Hon. William Burden, Assistant Secretary of Commerce for Air, at a luncheon for the association to be given by the Aviation Section of the New York Board of Trade on Thursday, October 12, at one o'clock.

Dr. Paulo Sampaio, president of Panair do Brasil, affiliate of Pan American World Airways which boasts proudly of being the longest domestic airline in the world, arrived last month in Miami on the* Rio Clipper, *en route to New York for business conferences.

10 Years, $10,000 Fine May Be Penalties For Lie on Priority

Lieut.-Col. M. P. Bickley, who is commanding officer of the Regional Air Priorities Control Office at LaGuardia Field, New York, says he has been notified by the War Department that persons who falsify reasons for travel or the urgency of their trips in order to obtain priorities for air transportation are liable, under Federal law, to a fine of $10,000, imprisonment for a maximum of ten years, or both.

'Airparks' to Serve Cargo, Too

Oliver Parks outlines plan for bringing both passenger and freight transportation by air direct to business and industrial centers of cities

OLIVER L. PARKS, president of Parks Air College in East St. Louis, Ill., has helped the airplanes of the nation improve service and efficiency by supplying a steady flow of well-trained graduates for years. Now he is spearheading a movement to make possible the delivery of airline passengers to city-center landing fields conveniently located to hotels, business sections or financial districts, plus air cargo deliveries, door-to-door, from freight landing fields in industrial or wholesale districts.

In the postwar future, a passenger getting off the plane at the major airport will not need to take a bus or taxicab for a ride of an hour or so to his final destination. Instead, he will step into a small plane, or perhaps a larger shuttle-service aircraft, and in 10 to 12 minutes deplane at an "*Airpark*" within five minutes' walking distance from his business destination or hotel.

"*Airpark*" is the word adopted officially by the Civil Aeronautics Administration, the Aeronautical Chamber of Commerce, the National Aeronautic Assn. and other organizations, to apply to the small landing field intended to be of service particularly to the private flier. "*Airpark*" will be planned and landscaped, and buildings constructed along lines that will fit them into different types of locations, such as residential neighborhoods, civic centers, business districts, industrial areas, college campuses, golf clubs, etc. Storage and other facilities that will be provided to meet the demands of the individual who uses his aircraft for pleasure flying or daily utility.

The downtown *Airpark* is the one which the airlines will use for shuttle delivery of their passengers, Parks points out. Because the field is located within easy walking distance of banks, stores and office buildings, the centrally established *Airpark* will be just as convenient to the business man using airline transportation as it will be to the suburban resident flying in daily by his private plane to avoid the delays of motoring.

Pictures "Commuter Air Buses"

As he visualizes aviation's postwar development, there will be commuter air buses carrying up to 50 passengers, taking off at the rush hour from a dozen or more nearby suburban towns, carrying factory workers or shop clerks to *Airparks* near their centers of employment, and delivering them there in a much more pleasant frame of mind. These planes will land and take off on 2000-foot runways or shorter. After the morning rush hour is over, they will convey Mrs. Modern Shopper downtown to the big department stores or exclusive ready-to-wear establishments. In the evenings, theater parties will use the air buses.

The same downtown *Airpark* will accommodate Mr. Air Passenger, just as conveniently as it does the resident patrol of that flying field. Or if it is Mrs. Social Visitor arriving at St. Louis from Philadelphia, she can continue the mainline journey by a quick hop in a small private-owner-type plane, either to the *Airpark* in the outlying residential section or if she so pleases, to Columbia or Jefferson City (some 125 miles away) in a third the time or less required to extend the airline passage to those cities by surface travel. That supplemental service could be organized either as part of the airline's own system (CAB permitting), or as

an independent enterprise having contract with the airlines for the privilege of selling through transportation in either direction.

Jobs for Millions Involved

Parks has advocated the construction of 6,000 *Airparks* as a postwar project, to be shaped up immediately as a postwar measure that would provide a million man-years (not man-hours—but one man working a full year at standard week-day schedule) as an employment welcome-home to G.I. Joe. Those *Airparks* would subsequently supply steady work for thousands of men selling, servicing, maintaining the private owners' aircraft. Some of these steady employes would be the airline "shuttle-service" operatives, or the pilots and crews handling convenience trips for airline passengers destined to smaller cities near the metropolis where the major airline stops.

What about air freight or air cargo or air express?

"The *Airpark* situated in the factory district," declares Parks, "would serve admirably for a distribution center on freight items ordered by industrial plants. A small freight dock or warehouse type of structure would fit in with the atmosphere of that district; but as we all understand, would be out of keeping with the business center, where all structures would conform to the nature of the activity housed in the surrounding building. With a loading dock at the *Airpark* in the industrial section, incoming or outgoing shipments could be 'ferried' or 'shuttled' back and forth as a part of the regular day's routine. If the city had established a major flying field designed especially for cargo planes, the cargo-type shuttle plane could operate to that field just as easily as to the passenger airport.

St. Louis Site Is Urged

"Truck loading at the *Airpark* docks could make door-to-door deliveries and pick-ups. The airline could own the trucks or handle this service by contract."

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As an illustration of what Parks has in mind, he has been urging that the Jefferson Memorial site on the St. Louis riverfront be developed as an *Airpark* for an experimental period of perhaps a year. This land was bought by the Government a few years ago, and cleared, except for a storage building. The ground is weed-grown now, and paving blocks and similar unsightly materials are heaped there. The project to erect a memorial on the site has been delayed or stopped; Congress has not appropriated the millions St. Louis enthusiasts for the memorial had hoped would be forthcoming.

Such a tract would easily afford a one-way landing strip 3,200 feet long. Deplaning there, a business man would be right at the edge of the banking and commercial district; four blocks away from the main shopping center; eight blocks from the city hall and courts buildings; a five-minute taxi drive from Union Station.

The river-front site would be ideal for the experimental activity, because it is exactly the kind of location advocated for downtown *Airparks*. Moreover, it is fronted on one side by tall buildings; on the other by the Mississippi River. The Civil Aeronautics Administration has declared it is interested in supervising this experimental program by stationing men there to operate motion picture machines catching every landing and take-off, as well as observers to help handle and direct every phase of the experiment that had any connection with air safety. After a six-month or year tryout, CAA feels that this trial operation will have completed the experience tables needed to guide construction plans and flying procedures needed to be adopted for utility use of *Airparks* in metropolitan centers in all parts of the U. S.

The St. Louis riverfront district includes a warehouse section and a small-industry development. The facility of air cargo handling in shuttle service to Lambert-St. Louis Airport, or the planned Columbia Bottoms long-haul passenger and cargo airport, could be worked out admirably as a part of the CAA experiment in conjunction with the St. Louis riverfront landing field.

The city's airport commission once approved the riverfront landing field, then rescinded that action when political groups and art admirers joined forces in protest. The Jefferson Memorial boosters, hopeful of accomplishing their dream despite Congressional indifference, declare it would desecrate that ground to use it as the location for an experimental flying field. They say the ground was "made sacred" by its pioneering use by fur traders and others who set foot there in the days when the West was being opened to settlement.

In his visualizing of air transportation's future, Mr. Parks is not ignoring the helicopter, but he regards it as not yet ready to take its role in utility usage. Citing the small payload which helicopters carry now, Mr. Parks doubts that it ever will become a freight vehicle in the tonnage weights. For express emergency items, the helicopter will serve a need in the future. How far ahead that future will be, the helicopter designers must answer.

Meanwhile, to make full use of the airplane's adaptability as improved by war demands. Parks recommends the *Airpark*, the commuter-type plane for passengers, the light plane for two or three individuals continuing their airline journeys to smaller cities, and the "shuttle" cargoplane of one to 10 tons capacity for quick delivery or pickup of air freight.

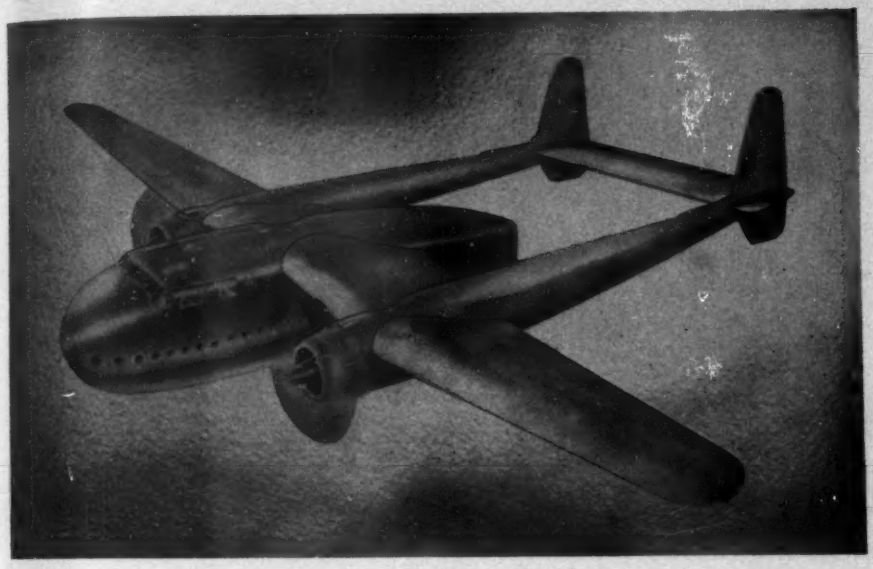
United Air Lines Hauls 9,750 Tons for Army In Year's First Half

More than 7,000,000 miles were flown and over 19,500,000 lbs. of men, materials and mail were carried for the Army's Air Transport Command by United Air Lines in its domestic, Alaskan and transpacific operations during the first half of 1944, it was announced by the company this month with the approval of the Army.

United's half-year figures disclosed that the company flew 7,123,643 miles in military contract operations, carried 19,541,360 lbs., flew 21,089,900 ton-miles. Passengers totaled 30,230, cargo 9,064,978 lbs., and mail 3,750,710 lbs.

With these figures, United boasted that it had flown a grand total of 21,918,327 miles for the Army since the start of ATC operations early in 1942.

AIR TRANSPORTATION NEWS
REG. U. S. PAT. OFF.



Fairchild's new contender for air cargo was still under heavy wraps this month insofar as actual photos are concerned, but a designer's scale drawing gives an idea of its size and its striking design.

Fairchild Entry for Cargoplane Sweepstakes Makes Its Debut

FAIRCHILD AIRCRAFT'S giant new C-82 Army cargo plane this month made its first flight before a cheering audience limited by wartime security regulations to the hundreds of men and women who built the ship in record time. The powerful twin-engined, all-metal, high-wing monoplane, designed specifically for operation from and into medium-size fields, took off quickly and climbed rapidly before going through its paces.

"The C-82 is a grand ship," boasted Richard S. Boutelle, vice president and general manager of Fairchild, at the conclusion of the flight.

Engineered to meet present war needs for carrying guns, tanks, ammunition, supplies, troops or paratroops to distant points of combat and operation, the C-82 has a range in excess of 3,500 miles. Advanced design and many radical improvements are expected to make the C-82 "very easily adaptable" to peacetime commercial air service, a Fairchild spokesman said, adding, "The plane's unique features for handling passengers, mail, express and cargo of varying size promise it a big role in the postwar air world."

As the plane, nicknamed the "flying box-

car" of the air, circled overhead, Paul J. Frizzell, assistant general manager at Fairchild, explained how the company pioneered in development of cargo planes.

In a sense, the C-82 is a direct descendant of the C-31 single-motored cargo plane which Fairchild built for the army in 1931. The C-31, Frizzell declared, "was the most efficient plane of its type at that time, and the army naturally remembered its record and turned again to Fairchild when the need arose for a cargo design utilizing the later warborn improvements."

The C-82 marks Fairchild's re-entrance into the large-plane field. Previously, Fairchild has specialized in personal craft and utility designs of small or medium size. During the war, the company has produced upwards of 5,000 PT-19 primary trainers, the AT-21 advanced trainer and the UC-61 military liaison plane.

Modest quiet Armond Thieblot, famous French-born chief engineer of Fairchild, could not hide his pleasure at the first flight of the C-82, whose design he supervised and directed.

"I am very happy indeed about the C-82," he said. "It unquestionably represents a great forward stride in aviation. I know that all the men and women who helped in the creation of the plane join me in having definite faith in its future usefulness to the war effort and postwar commercial operations."

New York Board of Trade Aviation Section Pins Presidential Candidates Down On Air Future

The busy new Aviation Section of the New York Board of Trade went to work this month to try to get an expression from the Presidential candidates of both major parties on postwar Government policy in continuous buying of aircraft as a means of sustaining the aircraft industry. Not surprisingly, no definite answer came from either candidate, Governor Dewey pleading that he was too busy to answer the Section's query, and President Roosevelt passing on the query to Acting Chairman J. A. Krug, of WPB.

On Thursday, August 31, 1944, copies of the following telegram were sent to the two leading presidential candidates by the Aviation Section, New York Board of Trade:—

"Do you believe that to preserve and maintain an adequate aircraft manufacturing industry in the United States, aircraft procurement by the Government, the largest customer of the aircraft manufacturers, should be continuous when the present emergency has passed? Can you express in percentage or other suitable terms the minimum ratio of 1943 aircraft production which the Government should assure to aircraft producers yearly during the next four years in order to guarantee technical advancement on a par with or above that of other countries and to provide reasonable employment in those areas where headquarters of aircraft manufacturers are established? Would you express your views relating to the transit and commercial entry of American air transport craft in all countries of the world so that American air transport may be on a par, as far as international rights are concerned, with that of any other nation?"

John F. Budd, Chairman
Aviation Section
New York Board of Trade

The answers were as follows:—

For Governor Dewey:—Dated Sept. 2, 1944, Executive Chamber, State of New York, Al-

Trans-Canada Boasts 43 Times More Mileage Than It Had in 1937

In 1937, the year of its incorporation, Trans-Canada Air Lines operated over a route 122 miles long. Today its routes total 5,276 miles and its aircraft fly annually between 9 and 10 million miles, on regular service between St. John's, Newfoundland, and Victoria, B. C., between Toronto and New York, between Toronto, London and Windsor in Ontario and between Lethbridge, Calgary and Edmonton in Alberta province.

Trans-Canada Air Lines also operates for the Dominion Government a transatlantic air mail service for troops overseas. In the first year of daily transcontinetal operation, 1939, TCA carried 21.569 passengers. The estimate for 1944 is 169,734.

Trans-Canada operates the longest transcontinental air route and is the fifth ranking airline on the Continent, being exceeded only by four major U. S. lines.

bany—a letter signed by Reuben B. Crispell, Acting Secretary:—

"Your telegram of August 31st addressed to Governor Dewey, requesting him to express his opinion with respect to aircraft production, has been received. The pressure under which the Governor is working at present prevents him from expressing his views on particular points such as the one which interests you. I know that the Governor will appreciate your interest in telegraphing to him."

For the President—Dated Sept. 9, 1944, War Production Board, Washington, D. C.—a letter signed by J. A. Krug, Acting Chairman:—

"Your telegram of August 31st, addressed to the President of the United States, has been forwarded to me for consideration and reply.

"The questions which you expound are rather difficult to answer, because they are so much affected by the progress of the war on the one hand and by action which Congress may take with regard to the size of the post-war air force and the funds which may be appropriated to implement such an air force.

"There can be no doubt but that it is in the public interest for the United States to maintain an aircraft manufacturing industry, as large as possible from the standpoint of readiness to expand into the production of military aircraft in the event of any future conflict. It is appreciated that the largest customer of the industry for sometime to come will be the United States Government and it is for this reason that I advised, as I did at first, that any estimate must be predicted on the generosity of Congress in the matter of funds.

"However, there can be no doubt but that the present size of the industry will be very substantially reduced. In that sense, there cannot be a direct continuity of production. Various estimates as to the reduction have been made ranging from about one-tenth to about one-twentieth of the present size. Perhaps it will lie somewhere between these two.

"It would be impossible at this time to express in percentage or, for that matter, in any other terms, the minimum ratio of 1943 aircraft production which the government, should assure the aircraft producers yearly for the next four years. However, the government is cognizant of the tremendous importance of continuing technical development to the maximum extent practicable and will, no doubt, be furnished sufficient funds by Congress so as to permit research and development contracts through the industry in order to keep this country technically in the lead in Aviation. Presumably, such action will provide reasonable employment at the location of the headquarters of the principal aircraft manufacturers.

"As to the policies relating to transport and commercial aviation, with particular reference to the part America will play in the international field, it is believed inappropriate at this time to comment because of the current discussions which are taking place between the State Department and the proper agencies of other countries. Also, Congress is involved in similar discussions and until the policy is clarified to a greater extent, any comment on this particular point would appear to be premature."

On Wednesday, September 13, 1944, the New York Board of Trade announced to the press and the Aviation Industry its Air Power Policy which had been formulated on September 6th by its Aviation Section and adopted by the organization's Bard of Directors on September 12th.

The receipt of W.P.B. Acting Chairman Krug's letter compels the announcement of the New York Board of Trade's efforts to safeguard the future of the nation's air defenses and the human and economic structure of the aviation industry.

Major Airlines Plan Use Of Commission Agents For Ticket Selling

Postwar plans for the sale of air transportation tickets through commission agents have been filed with the Civil Aeronautics Board by the Air Traffic Conference of America.

Supplementing the vast network of individual airline ticket offices, the program envisions a chain of sales agencies with places of business fully equipped to render complete travel services, including those comparable to regular airline facilities.

Under the proposed plan, the Conference would approve all applications for commission agents. Approved agents, given recognition through an appropriate certificate, could represent one or more member airline and would be required to pay a nominal fee to cover bonding costs.

In announcing the new procedure, M. F. Redfern, executive secretary of the Air Traffic Conference, whose membership includes all of the U. S. air carriers and the two largest Canadian carriers, said the commission agents would become a vital part of sales organizations for the air transport industry

Explaining that the primary job of the airlines is to carry persons essential to the war effort until peacetime travel conditions return once again, Mr. Redfern said the resumption of commission payments on domestic air travel must await normality. Meanwhile, preliminary arrangements will go forward in order that the new program may become effective as soon as conditions permit, he concluded.

Major Arthur Lonergan, AAF (left), welcomes to the big Army air base at Newark airport the directors of the Sheraton Hotels along with their guests. Left to right: Roland Trenchard, Radio Station WAAT; Thomas C. Deveau; Maurice T. Lawler; C. Harold Rex, public relations, the Newark Sheraton; John Moje; Elmer E. Boswell; Evelyn Moselle and Mrs. Emily H. Mahoney, of the Department of Commerce; Ronny Deeney; Louis J. Pitts, Standard Wholesale Supply Corp.; Frank J. Power, Jr.; Spencer L. Sawyer; Newton L. Smith; General Manager E. Curry Dugan, of the Newark Sheraton, and Lieut. Cy Taillon, public relations officer of Newark Airport.

L.A. to N.Y. in 6½ Hrs. Record Set by Army Officially Recognized

Two new national records for coast-to-coast flights were officially recognized this month by the Contest Board of the National Aeronautic Assn.

Both flights were made last May 12 by U. S. Army pilots in North American P-51 *Mustang* fighters, and spanned the continent from west to east in a little more than six and one-half hours:

West-to-east transcontinental with re-fueling stops: Col. C. A. Peterson, USAAF, Los Angeles Municipal Airport to LaGuardia Field, New York, with stop for fuel at Kansas City; 6 hours, 31 minutes, 30 seconds.

West-to-east transcontinental, non-stop: Lieut. Col. Jack Carter, USAAF, Los Angeles Municipal Airport to LaGuardia Field, New York; 6 hours, 39 minutes, 30 seconds.

The two planes took off from Los Angeles within a minute of each other. Colonel Carter's average speed was 370.062 miles per hour, and that of Colonel Peterson was 378.544 miles per hour. The previous national west-to-east transcontinental record was held by Howard R. Hughes, who flew a Hughes Special monoplane coast-to-coast in 7 hours, 28 minutes and 25 seconds on Jan. 19, 1937. Hughes' average speed was 327.151 miles an hour.

Tax Aviation Gas, But Use Money for Aviation Progress, NAA Insists

Taxation of aviation gasoline by state governments, with proceeds earmarked for aviation development, was advocated last month by the National Aeronautic Assn., following a referendum vote by its board of directors on three resolutions:

"Resolved, That the NAA recommend to the commissioners on uniform state laws an act to provide for the exclusive application of all aviation gasoline taxes to aviation development . . . invite the endorsement by all aviation groups of a uniform state law to provide for the exclusive application of all aviation gasoline tax to aviation development . . . recommends the retirement of the Federal Government from the taxing of gasoline and other fuel used in operation and maintenance of aircraft."

(Trade Mark)

Inter-American Cargo Shipments by Air Are Up 88 Pct. Over Year Ago

Air travel between the Americas is up 22 per cent and movement of air express is 88 per cent ahead of a year ago, according to Pan American Airways.

Passenger-miles flown by Pan Am's Latin American division during June totaled 20,492,537, compared to 16,816,886 during the same month of 1943, bringing the six-month total for this year to 110,470,542, a gain of 18 per cent over the 93,822,192 passenger-miles flown during the first half of 1943.

Express ton-miles flown by PAA on the international routes linking the American republics totaled 948,225 for June of this year, compared to 503,534 for June, 1943, a gain of 88 per cent.

The total of 4,932,491 express ton-miles for the first six months of this year represents an increase of 62 per cent over last year. Total cargo carried by the division, exclusive of mail, was 3,829,963 lbs. for June, and 23,383,343 lbs. for the first six months. The mail load totaled 1,643,778 lbs. for the half year.

Plane-miles flown by the division through the Caribbean, Mexico and Central and South America total 7,855,741 for the first six months. The number of passengers carried represents a gain of 19 per cent compared with the first six months of 1943.

C.O.D., Collect Services To 14 Latin American Nations Resumed by PAA

Re-establishment of C.O.D. and air-express-collect services from the U. S. to many Central and South American countries has been announced by the Latin American Division of Pan American Airways. The services were suspended in August, 1942, because of the war.

Facilities for payment for merchandise and transportation from the U. S. on a collect basis will be available to importers in Guatemala, El Salvador, Honduras, Costa Rica, Trinidad, Dominican Republic, Haiti, Cuba, Puerto Rico, Canal Zone, Republic of Panama, St. Thomas (Virgin Islands), Dutch Guiana and Venezuela.

Cargo Rates for Cuba, Venezuela Sharply Cut

Extensive reductions in international air express rates for classified cargo between Venezuela and Cuba and the U. S. have been announced by Pan American Airways. Effective immediately the commodity express rate for shipments of orchid plants from La Guaira, Venezuela, to Miami is 54 cents per lb., for a minimum weight of 55 lbs., instead of 81 cents.

Frozen frog legs from the island of Cuba have been reduced from 20 cents to 10 cents per pound on a minimum shipment of 500 lbs. from Cienfuegos, the "frog capital," to Miami.

Cuban leaf tobacco shipments of 100 lbs. from Camaguey, Cuba, now carry a rate of 13 cents per pound with the standard rate of other merchandise remaining at 26 cents..

Many frozen foods, one of Cuba's rapidly expanding enterprises, are being handled exclusively through Pan Am. Air express. During the first six months of 1944, express shipments by PAA through Miami totaled 2,051,705 lbs. as compared with 138,855 lbs. for the same period in the pre-war year of 1941.

Air-Rail Express Up One Eighth Over 1943

Air express shipments carried in combined air and rail service in the first seven months of 1944 gained 12.3 per cent over the similar 1943 period, the Air Express Division of Railway Express Agency reports. A total of 250,970 shipments were handled for the airlines during the seven-month period, compared with 223,338 shipments in 1943.

Utilization of the air shipping speed afforded by air-rail transportation is expected to be particularly valuable in the light of post-war reconversion, RREA points out. Pending full reconversion, dealers will need materials and merchandise as quickly as possible, and the return to full-scale peacetime production will require considerable time.

Air-rail express service is accomplished through coordination of schedules linking more than 375 airport cities in the U. S. and Canada to the 23,000 non-airline offices of the Express Agency. About one-third of all air express traffic moves in air-rail service.

Panair do Brasil Ups Flight Miles 37 Pct.

Panair do Brasil, Brazilian affiliate of Pan American Airways, has increased its scheduled flight-miles 37 per cent in the past 30 days. Night flights of the company, which pioneered night flying in Latin America, now total 25,000 miles a week.

There are now 22 weekly flights north from Rio de Janeiro to coastal points. From the capital to Belem seven weekly flights have been increased to nine. Across the cutoff from Rio to Belem there are now three flights weekly instead of two. New schedules have been added to "the hump" ports of Fortaleza and Joao Pessoa. Four weekly trips between Rio and Salvador, in the state of Bahia, replace the former schedule of two—one on the interior route serving Belo Horizonte, capital of Minas Geraes, and Montes Claros. In addition, between Rio de Janeiro and the capital of Minas Geraes, 12 schedules weekly are flown where previously there were 10.

Expansion of operations also covers service from Rio south to Porto Alegre, the schedule being increased from seven to 10 trips. To handle increased activity are also extra flights between Rio, Sao Paulo and Belo Horizonte. The regular night flight between Rio and Sao Paulo has an extra section nightly in each direction.

Air Express International Opens Los Angeles Office

Chester M. Mayer, president of Air Express International, Inc., has announced the opening of a new office at 111 West Seventh St., Los Angeles 14. William E. Mann will be Los Angeles, manager.

Among its other activities in the general shipping and forwarding field, the new office will handle customs clearance of shipments arriving from Mexico via the planes of Compania Mexicana de Aviacion, S.A., subsidiary of Pan American Airways.

Air Express International already has offices in New York, Miami and New Orleans.

United Air Resumes Service for Merchants

United Air Lines is re-establishing complete "mercantile divisions" in all principal cities to serve manufacturers, department store buyers and others in the commercial field, B. B. Gragg, UAL director of sales, has announced.

J. M. Mills, C. P. Murray and L. A. Swenson rejoined United's traffic department Sept. 1 as managers of mercantile divisions at Chicago, Los Angeles and San Francisco, respectively.

Murray, who has been manager of the company's New York personnel office, formerly was mercantile manager at San Francisco. Mills has been in personnel work at Cheyenne and Swenson at San Francisco.

AIR COMMERCE NOTES

Braniff Airways planes flew a total of 488,233 miles in July as compared to 402,744 miles in June, and 360,167 miles in July, 1943. Cargo jumped from a total of 40,584,543 lbs. in June, to 57,247,502 lbs. in July of this year, an increase of 41 per cent.

Air express carried on Northwest Airlines planes during July totaled 152,913 lbs., an increase of 48,583 lbs. over July, 1943. Express pound-miles for the month totaled 93,049,535.

A new monthly record for passenger revenue was reached in July when passenger business totaled aproximately $570,000.

July traffic figures for American Airlines, Inc., show substantial increases, with a rise of nearly 14 per cent in the number of revenue passengers carried. Express ton-miles rose from 420,321 in June to 435,331 in July.

Colonial Airlines broke all records for traffic between New York and Montreal during the month of August, 1944, according to President Sigmund Janas, carrying 7,065 passengers as compared to 5,198 in July, an increase of 36 per cent. Mail poundage totaled 32,767—an all-time high in the history of the company.

Air mail carried by United Air Lines during July reached an all-time high, 79 per cent over loads carried during July, 1943. Planes recently returned from Army service provided substantially more space for mail and helped account for the record 1,647,184 mail ton-miles flown as compared with 920,360 in July, 1943. But express ton-miles were off eight per cent.

For the second straight month, Northwest Airlines planes operating between Chicago, the Twin Cities and the Pacific Northwest carried a new all-time record total of revenue passengers during August. Estimated figure for the month is 18,755, nearly 1,700 over July.

Transporting the largest number of passengers in any month in its history, Pennsylvania-Central Airlines in July flew a total of 43,856 persons. The July figure is a 72.7 per cent increase over July 1943. Air express for the month aggregated 444,076 lbs.

TO Jack Frye, whose ten years as president of TWA were signalized at the company's Kansas City headquarters by his receiving the personal tribute of Donald W. Douglas, tendered to him by Mayor John B. Gage of Kansas City, while E. Lee Talman, TWA's executive vice-president, looks on. Attached to the gift, a scale model of the four-motored Douglas C-54, is a placard: "To Jack Frye, modern pioneer, whose global achievements in Douglas planes have helped place milestones in the path of aviation progress."

TO Roger C. Fleming, for more than a year the regional director for the General Motors Department of Public Relations in Indianapolis, on being named director of advertising and public relations for the Allison Division of General Motors.

Fleming, who has been associated with GM's department of public relations since 1938, takes over the advertising responsibilities formerly handled by Volney B. Fowler, who has taken over a similar post at the Corporation's Electro-Motive division, and also assumes the national public relations assignment until recently handled by Francis Walton through Arthur Kudner, Inc., Allison's advertising agency.

Fleming is a native of Columbus, Ohio, and was graduated from Ohio Wesleyan University in 1934. From then until joining General Motors he served as financial reporter, business editor and columnist on the Buffalo *Times*.

TO Alfred Marchev, president of Republic Aviation Corp., on becoming the new president of the Aircraft War Production Council, East Coast, Inc. Marchev, elected to succeed Victor Emanuel, assumed the office Sept. 1—same day he began his second year as president of Republic, producer of the P-47 *Thunderbolt* at its Farmingdale, L. I., and Evansville, Ind., plants. He began with Republic in February 1942 as executive vice president.

Beside Republic, members of the East Coast Council include Aviation Corp., Bell Aircraft, Chance-Vought Aircraft, Curtiss-Wright, Eastern Aircraft Division of General Motors, Fairchild and Glenn L. Martin.

TO Ernest B. (Pat) Riley, assistant passenger manager of American Export Airlines for the past two years, who returns to American Export Lines on Oct. 1. And to William F. Muller, former passenger representative, who succeeds Riley in charge of passenger traffic, American Export Airlines.

Ernest B. Riley

Riley is an expert on governmental procedure pertaining to customs and passports. For that reason the steamship company loaned him to the airline where this experience was invaluable in setting up and developing its overseas passenger and cargo departments. Having completed the duties for which he was loaned to American Export Airlines, Riley returns to the steamship line with which he has been associated for 15 years as General Passenger Agent.

William F. Muller

He moved to Newark, New Jersey, 24 years ago from Baltimore, where he attended Johns Hopkins University, but forsook a budding medical career to enter the steamship business in 1918.

Muller is well known throughout travel circles both here and in Europe, having been associated with commercial air transportation for over 20 years. He was also general agent in Switzerland for the United States Lines and returned to this country when steamship service was terminated because of the war.

Before that, he was assistant chief engineer with American Airlines. He first joined American Airlines in 1932 as an apprentice mechanic, following his graduation from Georgia Tech.

TO George Estill on his promotion to supervisor of cargo service procedures for United Air Lines, as announced by C. P. Graddick, UAL director of air cargo.

George Estill

Estill, who received his business administration training at Colorado University, joined United in 1940 after several years in the operating department of the Denver & Rio Grande Western Railroad. Until recently he assisted United's director of military operations. In his new capacity, he will work with operations officials in analyzing cargo problems and standardizing handling procedures at all United stations.

TO Col. Harry C. Short on his appointment as general manager of Continental Air Lines' modification center in Denver. Short assumed his duties Sept. 5, replacing Stanley R. Shatto, who has returned to Continental as its vice president in charge of maintenance and engineering.

TO Robert H. Helmer, aviation editor of the Cincinnati *Enquirer*, on being named central regional manager of TWA's News Bureau with headquarters in Chicago.

TO Charles E. Dougherty upon his election to membership on the executive board of the Aviation Section of the New York Board of Trade. Mr. Dougherty, who is president of Carter & Weeks Stevedoring Co., Inc., 2 Broadway, was appointed by John F. Budd, chairman of the Aviation Section, to be chairman of the subcommittee on stevedoring. Mr. Dougherty is a past president of the Foreign Commerce Club of New York and has long been well known in shipping circles of New York and New Jersey.

C. E. Dougherty

TO Leonard F. Bouman, whom K.L.M. Royal Dutch Airlines and K.N.I.L.M. Royal Netherlands Indies' Airways have appointed as their joint U. S. representative.

A new all-time high in air express shipments from LaGuardia Field was established by American Airlines during August: Total was 606,234 lbs., an increase of 28 per cent over August, 1943. AA also pointed out that during August a new daily high was also established when 35,668 lbs. were carried from New York in a single day's operation. The inauguration of new all-cargo transcontinental airfreighters during the month contributed to the gain, AA pointed out.

TO Arthur F. Cofod, on his being promoted to assistant cargo manager of American Export Airlines.

Cofod attended the Naval Academy and has been in the transportation industry for 12 years, 10 of which were in association with A. F. Cofod & Co., foreign freight forwarders specializing in international shipments by air. A pioneer in the simplificaton of air mail and air freight manifests, he has seen, largely through his efforts, superfluous forms eliminated by combining information, and off-loading and on-loading of cargo at intermediate stations have been materially expedited.

Arthur Cofod *William Silkie*

His new position places him in charge of American Export Airlines' four-continent cargo operations.

And to William C. Silkie, who has been advanced to the position of station cargo manager with headquarters at LaGuardia Field, New York. Silkie, who earned a reputation in semi-pro baseball and football, has national transportation experience gained over a period of nine years. He has been with AEA for the past year and a half.

In his new position, Silkie has direct responsibility for quick handling of all AEA-flown cargo and mail out of and into the U. S.

TO Walter C. Nagel, formerly assistant to the U. S. sales manager, on being raised to the post of New York district sales manager of Pan American World Airways.

Walter C. Nagel

A veteran travel man, Nagel brings to his new post a wealth of experience in the transportation business. Formerly with the United-American Line, where he held the position of manager of the steamship company's uptown Manhattan office, and later with American Airlines as a traffic representative, Nagel has traveled extensively throughout the Western Hemisphere. He joined Pan American in July 1941 as sales representative in the New York traffic office. As manager of the New York district sales office, he succeeds Donald Usher, who left PAA for a commission in the Navy.

TO Eugene A. Raven on being named assistant director of advertising in charge of agency and direct mail activities by United Air Lines. A native of Sioux City, Iowa, he formerly was promotion manager of the Des Moines *Register & Tribune*, after working with the Sioux City *Tribune* and Omaha *World-Herald*. He holds a private pilot's license, with 100 hours of flying time, partly accumulated during Army Air Corps training in 1943.

TO George O. Stayman, Delta Air Lines' city traffic manager in Cincinnati, on his promotion to district traffic manager, with territory including Knoxville, Tenn., Ohio, and other points relating to Cincinnati. His office will continue to be in Cincinnati.

TO W. C. Lawrence, just named chief engineer of American Export Airlines. He will head a new department formed by the combination of the former engineering sections of the operations and maintenance departments, reporting directly to the vice president in charge of operations.

W. C. Lawrence

Before joining American Export, Lawrence was director of development for American Airlines, a post he held for a year and a half following 22 months of service as chief engineering specialist with WPB in charge of accessories and equipment.

TO William F. McGrath, this month named traffic manager of the transportation department of Transcontinental & Western Air, Inc., in a new organization plan involving the creation of the transportation department to embrace all operating and service functions of the airline.

W. F. McGrath

McGrath, a resident of Rockville Centre, L. I., has been the airline's system traffic superintendent. Previous to that he was eastern traffic manager with headquarters in New York. The new department's creation will be effective Sept. 1. McGrath will act as an assistant to John Collings, named under the new set-up as vice president in charge of transportation.

★ CONVENIENT TO THE AIRPORT AND PORT NEWARK

THE Sheraton Hotel

E. CURRY DUGAN
General Manager

15 HILL ST., opp. City Hall, NEWARK 1, NEW JERSEY

TO Russell H. Lasche, who has been appointed director of engineering and research for Fairchild Camera & Instrument Corp. of New York, one of the country's largest manufacturers of aviation instruments, including aerial cameras, radio compasses, and other devices.

Russell H. Lasche

A graduate of the University of Wisconsin's engineering school, Lasche has been with various Fairchild enterprises for 15 years. He sold planes in his native Milwaukee and at Chicago, worked for Fairchild Aerial Surveys in Chicago, organized the aerial photography program for the Colombian government where he took the first photographs of the Orinoco River system headwaters, and made the first air map of the Carribean coast.

TO Robert I. Robinson, assistant to the general traffic manager of Transcontinental & Western Air, Inc., on his advancement to the post of sales promotion manager. Robinson, functioning with TWA's Sales Manager Clyde Fullerton, will be in charge of sales promotion throughout the airline's coast-to-coast system, with headquarters in Kansas City. Prior to his appointment as Traffic Manager E. O. Cocke's assistant, Robinson served in New York as eastern regional manager of TWA's public information department.

TO Robert M. Averill, assistant to Vice President Robert J. Wilson of Pennsylvania-Central Airlines, on his appointment as chairman of the State Relations Committee of the Air Transport Assn.

TO A. Jackson Kelly, formerly Pan American Airways division traffic manager in London, on his new duties as assistant to the division manager at the La Guardia Field, N. Y., headquarters for the transatlantic *Clipper* operations. He succeeded Tolbert A. Rice, who has been transferred to the United Kingdom offices.

A. Jackson Kelly

Graduate of the William Penn Charter School, Kelly attended the Wharton School of Finance and Commerce at the University of Pennsylvania. He joined Pan American in 1937 as a member of the traffic sales office in New York. Kelly is a native of Philadelphia.

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69 Manufacturers Busy Helping Glenn Martin Build 20 More 'Mars'

Sixty-nine manufacturers in 37 cities spread out over 12 states today are busy turning out sub-assemblies for the JRM *Mars*—world's largest production airplane, and several more are to be added in the near future as production of 20 of these 72½-ton Navy transports moves into full swing at the Baltimore plants of The Glenn L. Martin Co.

Sub-contracted items for these super-flying boats, sister ships of the famous *Mars* now ranging over the Pacific for the Naval Air Transport Service, run all the way from wing tips, flaps, control surfaces, floats, beaching gear, exhaust stacks and interior equipment to ladders, stairs, bolts, hinges, fittings and a wide assortment of small machined parts and assemblies. Seats for pilot, co-pilot, radio operator and flight engineer, tables for the navigator and radio operator, prop de-facer tanks and water tanks for the aft toilets, cowl flap operating drives and control columns are likewise included in the vast program which includes three well known aircraft companies—Spartan, Bellanca, and Kellett—in addition to the *Mars*' actual designer and builder.

Largest of all the sub-contracts is held by Spartan Aircraft Co. of Tulsa, only sub-contractor located west of the Mississippi. Far across the country in Newcastle, Del., Bellanca Aircraft Corp. has mobilized its facilities to turn out wing floats and float struts, while in Bridgeton, N. J., the Ferracute Machine Co. is turning its energies to the massive beaching gear on which the big boats will rest between flights.

Sixteen of the 69 sub-contractors are Baltimore neighbors of the Martin company, with Philadelphia holding down second place with 11, and New York third with six. Statewise, Pennsylvania is top man with 20 companies participating in the Mars production program as against 18 for Maryland, 12 for New York, 5 for New Jersey, 3 each for Ohio and Michigan, 2 each for Delaware and Connecticut, and 1 each for Tennessee, Rhode Island, Illinois and Oklahoma.

(*Trade Mark*)

International Express and Mail Tables

Express rates quoted are from U. S. international airport of departure and are based on the latest prevailing tariffs. Shippers are warned, however, that they are subject to change.

Bb—Bangor, Me.
Bro—Brownsville, Tex.
Bw—Boston, Mass.
Cg—Chicago
Cub—Cut Bank, Mont.
Ep—El Paso
Fv—Fort Worth
Gf—Grand Forks, N. D.
Lgs—Los Angeles
Mia—Miami
No—New Orleans
Nyk—New York
Sq—San Diego
Ste—Seattle

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per $100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will depart, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pick-up service without extra charge now is available for all international air express. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local R.E.A. office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Export Airlines, Inc., shippers should contact "Shipper's Service," Room 920, 25 Broadway, New York. HAnover 2-9144.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport:

A—American Airlines.
C—Colonial Air Lines.
E—American Export Airlines.
EA—Express Aero Inter-Americano, S. A.
K—KLM-Royal Dutch Air Lines.
NE—Northeast Airlines.
NW—Northwest Airlines, Inc.
P—Pan American Airways System and affiliates.
T—Trans-Canada Air Lines.
U—United Air Lines.
W—Western Air Lines.

LATIN-AMERICA LINES

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Antilla, Cuba	Mia P	.24	.17	Dly	.10
Antofagasta, Chile	Mia P	1.26	.45	M,W,F,Sa	.40
"	No P	1.34	.45	M,T,F,Sa	.40
"	Bro P	1.34	.45	T,Th,Sa	.40
"	Lgs P	1.95	.45	M,W,F	.40
Aracaju, Brazil	Mia P	1.26	.45	M	.40
"	No P	1.71	.45	Sa	.40
"	Bro P	1.71	.45	Sa	.40
"	Lgs P	2.28	.60	F	.40
Areia Branca, Brazil	Mia P	1.24	.45	T,W,Sa	.40
"	No P	1.56	.45	M,T,F	.40
"	Bro P	1.56	.45	Su,M,Th	.40
"	Lgs P	2.13	.45	Su,W,Sa	.40
Arequipa, Peru	Mia P	1.23	.45	Dly	.30
"	No P	1.26	.45	M,T,Th,F,Sa	.30
"	Bro P	1.26	.45	Dly	.30
"	Lgs P	1.03	.45	Dly	.30
Arica, Chile	Mia P	1.25	.45	Su,M,W,F,Sa	.40
"	No P	1.26	.45	M,T,F Sa	.40
"	Bro P	1.26	.45	Su,T,Th,F,Sa	.40
"	Lgs P	1.94	.45	M,W,F,Su	.40
Aruba, N. W. I.	— P	via Curacao, N. W. I.			...
"	Mia K	.71	.45*	W,Sa	.25
Asuncion, Para	Mia P	1.73	.45	Su,Th	.40
"	No P	1.86	.45	T,S	.40
"	Bro P	1.86	.45	T,F	.40
"	Lgs P	2.43	.60	M,Th	.40
Bahia, Brazil (*See Sao Salvador*)					
Balboa, Canal Zone	Mia P	.76	.35	Dly	.15
"	No P	.90	.35	M,T,Th,F,Sa	.15
"	Bro P	.90	.35	Twice Dly	.15
"	Lgs P	1.45	.45	Dly	.15
Baracoa, Cuba	Mia P	.28	.20	Dly	.10
Barcelona, Venezuela	Mia P	.85	.35	Dly	.25
"	No P	1.17	.45	M,T,Th,F,Sa	.25
"	Bro P	1.17	.45	Dly	.25
"	Lgs P	1.78	.45	Dly	.25
Barranquilla, Colombia	Mia K	.85	.50*	Sa	.35
via Kingston	Mia P	.61	.35	Su,T,W,F	.35
via Balboa	Bro P	1.03	.35	Dly	.35
"	No P	1.03	.35	M,T,Th,F,Sa	.35
"	Lgs P	1.59	.45	Dly	.35
Bauru, Brazil	Mia P	1.58	.45	T,Sa	.40
"	No P	1.71	.45	M,F	.40
"	Bro P	1.71	.45	Su,Th	.40
"	Lgs P	2.28	.65	Sa,W	.40
Belem, Brazil	Mia P	1.13	.45	Dly	.40
"	No P	1.34	.45	M,T,Th,F,Sa	.40
"	Bro P	1.34	.45	Dly	.40
"	Lgs P	1.95	.45	Dly	.40
Bello-Horizonte, Brazil	Mia P	1.65	.45	M,T,W,Th,F,Sa,Su	.40

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
Bello-Horizonte, Brazil	Mia P	1.65	.45	Dly	.40
"	No P	2.13	.45	M,T,Th,F,Sa	.35
"	Bro P	2.13	.45	Dly	.40
"	Lgs P	2.69	.60	Dly	.40
Bonaire, N.W.I.	— P	via C	urac	ao, N. W. I.	
"	Mia K	.75	.45*	W,Sa	.25
Buenos Aires, Argentina	Mia P	1.56	.45	Dly	.40
"	No P	1.70	.45	M,T,Th,F,Sa	.40
"	Bro P	1.70	.45	Dly	.40
"	Lgs P	2.26	.60	Dly	.40
Cali, Col. via Balboa	Mia P	.89	.35	Dly	.35
"	No P	1.03	.35	M,T,Th,F,Sa	.40
"	Bro P	1.03	.35	Dly	.35
"	Lgs P	1.59	.45	Dly	.35
Camaguey, Cuba	Mia P	.26	.20	Thrice Dly	.10
"	Mia K	.20	.25*	W,Sa	.10
Campeche, Mexico	Mia P	.41	.20	Dly	.10
"	No P	.41	.20	M,T,Th,F,Sa	.10
"	Bro P	.51	.35	Dly	.10
"	Lgs P	1.00	.35	Dly	.10
Campo Grande, Brazil	Mia P	1.48	.45	T,Sa	.40
"	No P	1.61	.45	M,F	.40
"	Bro P	1.61	.45	Su,Th	.40
"	Lgs P	2.18	.45	Sa,W	.40
Canavieiras, Brazil	Mia P	1.33	.45	M,T	.40
"	No P	1.81	.45	M,Sa	.40
"	Bro P	1.81	.45	Su,Sa	.40
"	Lgs P	2.38	.60	Fr,Sa	.40
Caracas, Venezuela (*See La Guaira*)					
Caravellas, Brazil	Mia P	1.35	.45		.40
"	No P	1.85	.45		.40
"	Bro P	1.85	.45		.40
"	Lgs P	2.41	.60		.40
Cayenne, Fr. Guiana	Mia P	1.02	.35	Dly	.30
"	No P	1.26	.45	M,T,Th,F,Sa	.30
"	Bro P	1.26	.45	Dly	.30
"	Lgs P	1.91	.45	Dly	.30
Cayo Mambi, Cuba	Mia P	.26	.20	Dly	.10
Chetumal, Mexico	Mia P	.55	.35	W,Sa	.10
"	No P	.55	.35	Th,Sa	.10
"	Bro P	.55	.35	Su,Th	.10
"	Lgs P	1.04	.35	W,Sa	.10
Chiclayo, Peru	Mia P	1.11	.45	Dly	.30
"	No P	1.19	.45	M,T,Th,F,Sa	.30
"	Bro P	1.19	.45	Dly	.30
"	Lgs P	1.81	.45	Dly	.30
Cienfuegos, Cuba	Mia P	.20	.17	M,T,W,F	.10
C. del Carmen, Mexico	Mia P	.45	.20	Dly	.10
"	No P	.45	.20	M,T,Th,F,Sa	.10
"	Bro P	.47	.35	Dly	.10
"	Lgs P	.94	.35	Dly	.10
Ciudad Trujillo, D. R.	Mia P	.45	.20	Thrice Dly	.10
"	Mia K	1.12	.50*	Sa	.10
Cochabamba, Bolivia	Mia P	1.26	.45	M,W,Sa	.35
"	No P	1.35	.45	M,T,F,Sa	.35
"	Bro P	1.35	.45	Su,T,F	.35
"	Lgs P	1.95	.45	M,Th,Sa	.35
Concepcion, Bolivia	Mia P	1.31	.45	Sa	.35
"	No P	1.45	.45	Sa	.35
"	Bro P	1.45	.45	F	.35
"	Lgs P	2.03	.45	Th	.35
Cordoba, Argentina	Mia P	1.49	.45	Dly	.40
"	No P	1.63	.45	M,T,Th,F,Sa	.40
"	Bro P	1.63	.45	Dly	.40
"	Lgs P	2.19	.45	Dly	.40
Coro, Venezuela	Mia P	.74	.35	Dly	.25
"	No P	1.11	.45	M,T,Th,F,Sa	.25
"	Bro P	1.11	.45	Dly	.25
"	Lgs P	1.69	.45	Dly	.25
Corumba, Brazil	Mia P	1.41	.45	T,Sa	.40
"	No P	1.56	.45	M,F	.40
"	Bro P	1.56	.45	Su,Th	.40
"	Lgs P	2.13	.45	Sa,W	.40
Cristobal, Canal Zone	Mia P	.76	.35	Dly	.15
"	No P	.92	.35	M,T,Th,F,Sa	.15
"	Bro P	.92	.35	Twice Dly	.15
"	Lgs P	1.46	.45	Dly	.15

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
Cuenca, Ecuador	Mia P	1.06	.35	Su,W,F	.20
"	No P	1.15	.45	T,Th,Sa	.20
"	Bro P	1.15	.45	T,Th,Sa	.20
"	Lgs P	1.76	.45	M,W,F	.20
Curacao, N. W. I.	Mia P	.75	.35	Dly	.25
"	No P	.93	.35	M,T,Th,F,Sa	.25
"	Bro P	1.11	.45	Dly	.25
"	Lgs P	1.73	.45	Dly	.25
"	Mia K	0.73	.45*	W,Sa	.25
Curityba, Brazil	Mia P	1.60	.45	Su,M,W,Th,F	.40
"	No P	2.00	.45	T,Th,Sa	.40
"	Bro P	2.00	.45	M,T,W,F,Sa	.40
"	Lgs P	2.58	.60	Su,M,T,Th,Sa	.40
David, Panama	Mia P	.82	.35	Dly	.15
"	No P	.85	.35	M,T,Th,F,Sa	.15
"	Bro P	.85	.35	Dly	.15
"	Lgs P	1.38	.45	Dly	.15
Esmeraldas, Ecuador	Mia P	.99	.35	T	.20
"	No P	1.11	.45	T	.20
"	Bro P	1.11	.45	M	.20
"	Lgs P	1.71	.45	Su	.20
Florianopolis, Brazil	Mia P	1.63	.45	M,W,F	.40
"	No P	2.11	.45	T,Th,Sa	.40
"	Bro P	2.11	.45	M,W,Sa	.40
"	Lgs P	2.68	.60	Su,T,F	.40
Fort de France, Martinique	Mia P	.71	.35	Su,W	.15
"	No P	1.00	.35	T,Sa	.15
"	Bro P	1.16	.45	M,Sa	.15
"	Lgs P	1.78	.45	Su,F	.15
Fortaleza, Brazil (Ceara)	Mia P	1.23	.45	M,T,W,Sa	.40
"	No P	1.54	.45	M,T,Th,F,Sa	.40
"	Bro P	1.54	.45	Su,M,W,Th, Sa	.40
"	Lgs P	2.10	.45	T,W,F,Sa,Su	.40
Georgetown, British Guiana	Mia P	.90	.45	Su,F	.30
"	No P	1.24	.45	Th,Sa	.30
"	Bro P	1.24	.45	W,F	.30
"	Lgs P	1.88	.45	T,Th	.30
Guadalajara, Mexico	Bro P	.43	.20	Dly	.30
"	Lgs P	.59	.35	Dly	.10
Guantanamo, Cuba	Mia P	.28	.20	Dly	.10
Guatemala City, Gua	Mia P	.74	.35	Dly	.10
"	No P	.53	.35	M,T,Th,F,Sa	.12
"	Bro P	.53	.35	Twice Dly	.12
"	Lgs P	1.08	.45	Dly	.12
Guayaquil, Ecuador	Mia P	1.04	.35	Dly	.12
"	No P	1.15	.45	M,T,Th,F,Sa	.30
"	Bro P	1.15	.45	Dly	.30
"	Lgs P	1.75	.45	Dly	.30
Havana, Cuba	Mia P	.20	.17	Thrice Dly	.30
"	MiaEA	.20	.18	Twice Dly	.10
Hermosillo, Mexico	Lgs P	.24	.17	Dly	.10
Iguassu Falls, Brazil	Mia P	1.69	.45	Su,Th	.10
"	No P	1.91	.45	T,Sa	.40
"	Bro P	1.91	.45	T,F	.40
"	Lgs P	2.48	.60	M,Th	.40
Ixtepec, Mexico	Mia P	.76	.35	M,T,W,Th, F,Sa	.40
"	No P	.76	.35	M,T,Th,F,Sa	.10
"	Bro P	.41	.20	Su,M,T,W, Th,F	.10
"	Lgs P	.89	.35	Su,M,T,W, Th,Sa	.10
Joao Pessoa, Brazil (Cabedello)	Mia P	1.25	.45		.40
"	No P	1.64	.45		.40
"	Bro P	1.64	.45		.40
"	Lgs P	2.20	.45		.40
Kingston, Jamaica	Mia P	.39	.20	M,T,W,F	.10
"	Mia K	.35	.35*	W	.10
La Guaira, Venezuela	Mia P	.81	.35	Dly	.25
"	Mia K	.75	.45*	W,Sa	.25
"	No P	1.15	.45	M,T,Th,F,Sa	.25
"	Bro P	1.15	.45	Dly	.25
"	Lgs P	1.75	.45	Dly	.25
La Paz, Bolivia	Mia P	1.23	.45	M,T,W,Th, F,Sa	.35
"	No P	1.30	.45	Su,M,Th,Sa	.35
"	Bro P	1.30	.45	Su,M,T,W,F	.35
"	Lgs P	1.95	.45	Su,M,T,W,F	.35

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Lima, Peru	Mia P	1.18	.45	Dly	.30
"	No P	1.24	.45	M,T,Th,F,Sa	.30
"	Bro P	1.24	.45	Dly	.30
"	Lgs P	1.88	.45	Dly	.30
Loja, Ecuador	Mia P	1.08	.45	Su,W,F	.30
"	No P	1.17	.45	T,F,Sa	.30
"	Bro P	1.17	.45	T,Th,Sa	.30
"	Lgs P	1.78	.45	M,W,F	.30
Macio, Brazil	Mia P	1.26	.45	M,T,F,Sa	.40
"	No P	1.68	.45	M,Th,F,Sa	.40
"	Bro P	1.68	.45	Su,W,Th,Sa	.40
"	Lgs P	2.24	.45	T,W,F,Sa	.40
Managua, Nicaragua	Mia P	.86	.35	Dly	.12
"	No P	.71	.35	M,T,Th,F,Sa	.12
"	Bro P	.71	.35	Dly	.12
"	Lgs P	1.22	.45	Dly	.12
Manaos, Brazil	Mia P	1.24	.45	T,Sa	.40
"	No P	1.56	.45	M,F	.40
"	Bro P	1.56	.45	Su,Th	.40
"	Lgs P	2.13	.45	W,Sa	.40
Manta, Ecuador	Mia P	1.03	.35	Th,Sa	.30
"	No P	1.14	.45	Th,Sa	.30
"	Bro P	1.14	.45	W,F	.30
"	Lgs P	1.74	.45	T,Th	.30
Manzanillo, Cuba	Mia P	.26	.20	Dly	.10
Maracaibo, Venezuela	Mia P	.69	.35	Dly	.25
"	Mia K	.75	.45*	W,Sa	.25
"	No P	1.08	.45	M,T,Th,F,Sa	.25
"	Bro P	1.08	.45	Dly	.25
"	Lgs P	1.66	.45	Dly	.25
Maturin, Venezuela	Mia P	.89	.35	Dly	.25
"	No P	1.19	.45	M,T,Th,F,Sa	.25
"	Bro P	1.19	.45	Dly	.25
"	Lgs P	1.80	.45	Dly	.25
Mazatlan, Mexico	Bro P	.57	.35	Dly	.10
"	Lgs P	.45	.20	Dly	.10
Medellin, Colombia (via Barranquilla)	Mia P	1.06	.35	Su,T,W,F	.35
Medellin, Colombia (via Balboa)	Mia P	1.06	.35	Sa	.35
	No P	1.10	.45	T,F,Sa	.35
	Bro P	1.10	.45	M,Th,F	.35
	Lgs P	1.65	.45	Su,W,Th	.35
Mendoza, Argentina	Mia P	1.41	.45	Su,M,W,F,Sa	.40
"	No P	1.55	.45	M,T,F,Sa	.40
"	Bro P	1.55	.45	Su,T,Th,F,Sa	.40
"	Lgs P	2.11	.45	M,W,F,Su	.40
Merida, Mexico	Mia P	.37	.20	Dly	.10
"	No P	.37	.20	M,T,Th,F,Sa	.10
"	Bro P	.55	.35	Dly	.10
"	Lgs P	1.04	.35	Dly	.10
Mexicali, Mexico	Lgs P	.20	.17	Dly	.10
Mexico City, Mexico	Mia P	.64	.35	Dly	.10
"	No P	.64	.35	M,T,Th,F,Sa	.10
"	Bro P	.26	.20	Dly	.10
"	Lgs A	.67	.35	Dly	.10
"	Lgs P	.70	.20	Dly	.10
Mexico City, Mexico	Fv A	.40	.20	Dly	.10
"	Eo A	.42	.20	Dly	.10
"	Sq A	.74	.20	Dly	.10
Minatitlan, Mexico	Mia P	.53	.35	Dly	.10
"	No P	.53	.35	M,T,Th,F,Sa	.10
"	Bro P	.39	.20	Dly	.10
"	Lgs P	.86	.35	Dly	.10
Monterrey, Mexico	Fv A	.33	.20	Dly	.10
"	Eo A	.34	.20	Dly	.10
"	Lgs A	.62	.20	Dly	.10
"	Sq A	.74	.20	Dly	.10
Montevideo, Uruguay	Mia P	1.60	.45	Su,T,W,F	.40
"	No P	1.74	.45	M,T,Th,Sa	.40
"	Bro P	1.74	.45	Su,M,W,F	.40
"	Lgs P	2.30	.60	Su,T,Th,Sa	.40
Nassau, Bahamas	Mia P	.20	.17	Dly ex Su	.10
Natal, Brazil	Mia P	1.25	.45	M,T,W,Th,Sa	.40
"	No P	1.61	.45	M,T,F,Sa	.40
"	Bro P	1.61	.45	Su,M,T,Th,Sa	.40
"	Lgs P	2.18	.45	Su,M,W,F,Sa	.40
Oaxaca, Mexico	Mia P	.73	.35	Su,T,Th	.10
"	No P	.73	.35	T,Th,Sa	.40
"	Bro P	.35	.20	Su,T,Th	.10
"	Lgs P	.81	.35	M,W,Sa	.10

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Oruro, Bolivia	Mia P	1.26	.45	M,T,W,Th,Sa	.35
"	No P	1.33	.45	M,T,Th,Sa	.35
"	Bro P	1.33	.45	Su,M,T,W,F	.35
"	Lgs P	1.95	.45	Su,M,T,Th,Sa	.35
Panama City, Panama	(See Balboa, C. Z.)				
Para, Brazil (See Belem)					
Paramaribo, Sur	Mia P	.97	.35	Dly	.30
"	Mia K	1.14	.60*	Sa	.30
"	No P	1.25	.45	M,T,Th,F,Sa	.30
"	Bro P	1.25	.40	Dly	.30
"	Lgs P	1.90	.45	Dly	.30
Parnahyba, Brazil	Mia P	1.21	.45	.....	.40
"	No P	1.48	.45	.....	.40
"	Bro P	1.48	.45	.....	.40
"	Lgs P	2.04	.45	.....	.40
Point a Pitre, Guadeloupe	Mia P	.66	.35	Su,W	.15
"	No P	.98	.35	T,Sa	.15
"	Bro P	1.14	.45	M,Sa	.15
"	Lgs P	1.74	.45	Su,F	.15
Port au Prince, Haiti	Mia P	.37	.20	Thrice Dly	.10
"	Mia K	.39	.35*	Sa	.10
Port of Spain, Trinidad	Mia P	.79	.35	Dly	.15
"	Mia K	.91	.55*	W,Sa	.15
"	No P	1.20	.45	M,T,Th,F,Sa	.15
"	Bro P	1.20	.45	Dly	.15
"	Lgs P	1.81	.45	Dly	.15
Porto Alegre, Brazil	Mia P	1.70	.45	M,T,W,F Sa,Su	.40
"	No P	2.19	.45	M,T,Th,F,Sa	.40
"	Bro P	2.19	.45	M,W,Th,F, Sa,Su	.40
"	Lgs P	2.75	.60	T,W,Th,F, Sa,Su	.40
Preston, Cuba	Mia P	.24	.17	Dly	.10
Puerto Suarez, Bolivia	Mia P	1.41	.45	Sa	.35
"	No P	1.56	.45	Sa	.35
"	Bro P	1.56	.45	F	.35
"	Lgs P	2.13	.45	Th	.35
Quito, Ecuador	Mia P	.97	.35	Dly	.30
"	No P	1.09	.45	M,T,Th,F,Sa	.30
"	Bro P	1.09	.45	Dly	.40
"	Lgs P	1.68	.45	Dly	.30
Recife (Pernambuco), Brazil	Mia P	1.26	.45	M,T,W,Th, F,Sa	.40
"	No P	1.65	.45	M,T,Th,F,Sa	.40
"	Bro P	1.65	.45	Su,M,T,W, Th,Sa	.40
"	Lgs P	2.21	.45	Su,M,T,W, F,Sa	.40
Rio de Janeiro	Mia P	1.50	.45	Su,M,T,W, F,Sa	.40
"	No P	1.98	.45	M,T,Th,F,Sa	.40
"	Bro P	1.98	.45	M,W,Th,F, Sa,Su	.40
"	Lgs P	2.54	.60	Su,T,W,Th, F,Sa	.40
Robore, Bolivia	Mia P	1.38	.45	Sa	.35
"	No P	1.51	.45	Sa	.35
"	Bro P	1.51	.45	F	.35
"	Lgs P	2.08	.45	Th	.35
Salinas, Ecuador	Mia P	1.05	.35	Th,Sa	.30
"	No P	1.15	.45	Th,Sa	.30
"	Bro P	1.15	.45	W,F	.30
"	Lgs P	1.75	.45	Tu,Th	.30
Salta, Argentina	Mia P	1.30	.45	T,Th,Sa	.40
"	No P	1.45	.45	T,Th,Sa	.40
"	Bro P	1.45	.45	M,W,F	.40
"	Lgs P	2.03	.45	Su,T,Th	.40
San Ignacio, Bolivia	Mia P	1.33	.45	Sa	.35
"	No P	1.48	.45	Sa	.35
"	Bro P	1.48	.45	Fr	.35
"	Lgs P	2.04	.45	Th	.35
San Jose, Bolivia	Mia P	1.35	.45	Sa	.35
"	No P	1.50	.45	Sa	.35
"	Bro P	1.50	.45	Fr	.35
"	Lgs P	2.08	.45	Th	.35

* These rates are only due if consignments are shipped with declared value.

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
San Jose, Costa Rica	Mia P	.89	.35	Dly	.15
"	No P	.76	.35	M,T,Th,F,Sa	.15
"	Bro P	.76	.35	Twice Dly	.15
"	Lgs P	1.31	.45	Dly	.15
San Juan, Puerto Rico	Mia P	.53	.35	Thrice Dly	.10
San Salvador, El Salvador	Mia P	.79	.35	Dly	.12
"	No P	.61	.35	M,T,Th,F,Sa	.12
"	Bro P	.61	.35	Dly	.12
"	Lgs P	1.14	.45	Dly	.12
Santa Cruz, Bolivia	Mia P	1.28	.45	M,W,Sa	.35
"	No P	1.43	.45	M,T,Sa	.35
"	Bro P	1.43	.45	Su,T,F	.35
"	Lgs P	1.99	.45	M,Th,Sa	.35
Santiago, Chile	Mia P	1.38	.45	Su,M,W,F,Sa	.40
"	No P	1.51	.45	M,T,F,Sa	.40
"	Bro P	1.51	.45	Su,T,Th,F,Sa	.40
"	Lgs P	2.08	.45	Su,M,W,Th, F,Sa	.40
Santiago, Cuba	Mia P	.26	.20	Dly	.10
Sao Luiz, Brazil	Mia P	1.19	.45	M,T,W,F,Sa	.40
"	No P	1.43	.45	M,T,Th,F,Sa	.40
"	Bro P	1.43	.45	Su,M,W,Th, Sa	.40
"	Lgs P	1.99	.45	Su,T,W,F,Sa	.40
Sao Paulo, Brazil	Mia P	1.55	.45	Dly	.40
"	No P	2.04	.45	M,T,Th,F,Sa	.40
"	Bro P	2.04	.45	Dly	.40
"	Lgs P	2.60	.60	Dly	.40
Sao Salvador, Brazil (Bahia)	Mia P	1.28	.45	M,T,W,F,Sa	.40
"	No P	1.76	.45	M,T,Th,F,Sa	.40
"	Bro P	1.76	.45	Su,M,W,Th, Sa	.40
"	Lgs P	2.33	.60	Su,T,W,F,Sa	.40
St. Johns, Antigua	Mia P	.64	.35	Su,W	.15
British West Indies	No P	.96	.35	T,Sa	.15
"	Bro P	1.13	.45	M,Sa	.15
"	Lgs P	1.73	.45	Su,F	.15
St. Thomas, V. I.	Mia P	.57	.35	Su,W	.10
"	No P	.90	.35	T,Sa	.10
"	Bro P	1.10	.45	M,Sa	.10
"	Lgs P	1.68	.45	Su,F	.10
Talara, Peru	Mia P	1.08	.45	Dly	.30
"	No P	1.17	.45	M,T,Th,F,Sa	.30
"	Bro P	1.17	.45	Dly	.30
"	Lgs P	1.79	.45	Dly	.30
Tampico, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.81	.35	Dly	.10
Tapachula, Mexico	Mia P	.74	.35	Dly	.10
"	No P	.74	.35	M,T,Th,F,Sa	.10
"	Bro P	.53	.35	Dly	.10
"	Lgs P	1.02	.35	Dly	.10
Tegucigalpa, Honduras	Mia P	.82	.35	Dly	.12
"	No P	.68	.35	M,T,Th,F,Sa	.12
"	Bro P	.68	.35	Dly	.12
"	Lgs P	1.18	.45	Dly	12
Tres Lagoas, Brazil	Mia P	1.53	.45	T,Sa	.40
"	No P	1.66	.45	M,F	.40
"	Bro P	1.66	.45	Su,Th	.40
"	Lgs P	2.23	.45	Sa,W	.40
Tucuman, Argentina	Mia P	1.34	.45	T,Th,Sa	.40
"	No P	1.49	.45	T,Th,Sa	.40
"	Bro P	1.49	.45	M,W,F	.40
"	Lgs P	2.05	.45	T,Th,Sa	.40
Turbo, Colombia (via Barranquilla)	Mia P	1.06	.35	Su,T,W,F	.35
Turbo, Colombia (via Balboa, C. Z.)	Mia P	1.06	.35	Sa	.35
"	No P	1.10	.45	T,F,Sa	.35
"	Bro P	1.10	.45	M,Th,F	.35
"	Lgs P	1.65	.45	Su,W,Th	.35
Tuxpan, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.83	.35	Dly	.10
Tuxtla,Gutierrez,Mexico	Mia P	.81	.35	Su,M,T,W, Th,F	.10
"	No P	.81	.45	T,Th,Sa	.10
"	Bro P	.45	.20	Su,T,Th	.10
"	Lgs P	.93	.35	M,W,Sa	.10

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Uyuni, Bolivia	Mia P	1.26	.45	T,Th	.35
"	No P	1.38	.45	T,Th	.35
"	Bro P	1.38	.45	M,W	.35
"	Lgs P	1.95	.45	Su,T	.35
Veracrus, Mexico	Mia P	.57	.35	Dly	.10
"	No P	.57	.35	Su,W	.10
"	Bro P	.33	.20	Dly	.10
"	Lgs P	.79	.35	Dly	.10
Victoria, Brazil	Mia P	1.41	.45	M,T	.40
"	No P	1.90	.45	M,Sa	.40
"	Bro P	1.90	.45	Sa,Su	.40
"	Lgs P	2.46	.60	F,Sa	.40
Villahermosa, Mexico	Mia P	.49	.35	Dly	.10
"	No P	.49	.35	M,T,Th,F,Sa	.10
"	Bro P	.43	.20	Dly	.10
"	Lgs P	.90	.35	Dly	.10

NOTE: Charges Collect and C. O. D. Services have been resumed to Pan American Airways Airports in the following countries: Canal Zone—Costa Rica—Cuba—Dominican Republic—El Salvador—Guatemala—Haiti—Honduras—Panama Republic—Puerto Rico—Surinam—Trinidad—Venezuela—Virgin Islands; also charges collect (no C. O. D.) service to Nicaragua.

ATLANTIC LINES

Bolama, Portuguese Guinea, Africa		2.66	.45	Fortnightly	.60
Botwood, Newfoundland	Nyk P	.81	.35	Thrice wk	.15
Dakar, Senegal, Africa		2.26	.45	Fortnightly	.45
England via Foynes*	Nyk E	(Rates	on	Application)	.30
" " *	Nyk P	(Rates	on	Application)	.30
Foynes, Eire via Botwood	Nyk P	1.78	.45	Thrice wk	.30
" " via Lisbon	Nyk P	2.00	.50	Fortnightly	.30
"	Nyk E	2.00	.50	.....	.30
Hamilton, Bermuda	Nyk P	.55	.20	Thrice fortnightly	.10
Horta, Azores	Nyk P	1.70	.35	Fortnightly	.30
Lisbon, Portugal	Nyk P	2.00	.45	Fortnightly	.30
Monrovia (Fisherman's Lake), Liberia		2.67	.45	Fortnightly	.30
Scotland via Foynes*	Nyk E	(Rates	on	Application)	.30
" *	Nyk P	(Rates	on	Application)	.30
Shediac, N. B.	Nyk P	.51	.20	Thrice wk	.06
Wales via Foynes*	Nyk E	(Rates	on	Application)	.30
" *	Nyk P	(Rates	on	Application)	.30

ALASKA LINES

Aniak	Alaska	Ste P	1.08	.35	Schedules not published	.06
Bethel,	"	Ste P	1.11	.35	"	.06
Burwash Landing	"	Ste P	.72	.35	"	.06
Fairbanks	"	Ste P	.90	.35	"	.06
Flat	"	Ste P	1.05	.35	"	.06
Galena	"	Ste P	1.00	.35	"	.06
Juneau	"	Ste P	.56	.35	"	.06
Lake Minchumina	"	Ste P	.95	.35	"	.06
McGrath	"	Ste P	1.00	.35	"	.06
Moses Point	"	Ste P	1.07	.35	"	.06
Nome	"	Ste P	1.11	.35	"	.06
Tanacross	"	Ste P	.81	.35	"	.06
Tanana	"	Ste P	.95	.35	"	.06
Whitehorse, Canada		Ste P	.66	.35	"	.06

CANADIAN LINES

			Note			
Calgary, Alb.	Nyk T	1.02	†	Dly	.06
Edmonton, Alb.	Nyk T	1.06	†	Dly	.06
Halifax, N. S.	Nyk T	.31	†	Dly	.06
Lethbridge, Alb.	Nyk T	.88	†	Dly	.06
"	CubW	.04	†	Dly	.06
London, Ont.	Nyk T	.22	†	Dly	.06
Moncton, N. B.	BbNE	.06	†	Dly	.06
Montreal, Que.	Nyk C	.12	†	Dly	.06
"	Nyk T	.12	†	Dly	.06

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
North Bay, Ont.	Nyk T	.27	†	Dly	.08
Ottawa, Ont.	Nyk T	.18	†	Dly	.08
Regina, Sask.	Nyk T	.80	†	Dly	.08
St. John, N. B.	Nyk T	.31	†	Dly	.08
St. Johns, N. F.	Nyk T	.58	†	Dly	.08
Sydney, N. S.	Nyk T	.36	†	Dly	.08
Toronto, Ont.	Nyk A	.16	†	Dly	.08
"	Nyk T	.16	†	Dly	.08
Vancouver, B. C.	Ste U	.04	†	Dly	.08
"	Nyk T	.96	†	Dly	.08
Windsor, Ont.	Nyk A	.20	†	Dly	.08
"	Cg A	.12	†	Dly	.08
"	Nyk T	.20	†	Dly	.08
Winnipeg, Man.	GfNW	.04	†	Dly	.08
"	Nyk T	.60	†	Dly	.08

* British Overseas Airways Corp. carries from Foynes, Ireland to destinations in England, Scotland, and Wales.

† Canadian air express is carried on the same basis as air express within the U. S.: $50 declared value free; excess charged at 10 cents per $100 or fraction thereof.

NOTE: Per pound rate shown in this column is based on the average package weighing 25 lbs., i.e.: 1 lb. package from New York to Ontario would cost $1 and 25 lbs. $4. Average cost per lb.: 10¢.

Scale of Rates Generally in Use in American Marine Insurance Markets for Mail and Air Shipments

Replacing Schedules Dated June 20, 1944

(Subject to withdrawal without notice and subject to all the provisions of the current war risk rate schedule)

A—Registered Mail, excluding Registered Airmail and Air Express

Non-negotiable securities (warranted full value declared for insurance)—37½% of Cargo Rates. Securities (except as before provided), documents and similar interest—75% of Cargo Rates.

Currency including jewelry, precious stones, precious metals, etc., also miscellaneous cargo—100% of Cargo Rates.

B—Registered Airmail and/or Air Express and/or other shipments via air Western Hemisphere (excluding shipments between points in Continental United States and/or Canada except as noted below)

	All Classes of Property
1. Sendings between points in Western Hemisphere not south of a line between Lima on the West Coast of South America and Paramaribo on the North Coast of South America	7½c%
except	
United States or Canada to from West Indies including Bermuda and Bahamas	5c%
West Indies to West Indies	5c%
United States or Canada to from Mexico, & Central America (including Canal Zone)	5c%
United States or Canada to from Prince Edward Island, Newfoundland	5c%
United States or Canada to from Victoria, British Columbia	5c%
United States or Canada to from Alaska not west of the railroad between Seward and Fairbanks, also between places in Alaska not west of the railroad between Seward and Fairbanks	5c%
United States, Canada or Alaska to or from places in Alaska west of the railroad between Seward & Fairbanks (excluding Aleutian Islands)	10c%
United States, Canada or Alaska to or from Aleutian Islands	15c%
United States or Canada to from Hawaii	10c%
Hawaiian interisland shipments by Air	10c%
2. Sendings between points in Western Hemisphere south of a line between Lima on the West Coast of South America and Paramaribo on the North Coast	7½c%

3. Sendings from points in North America to points on the West Coast of South America south of Lima, and vice versa	10c%
4. Sendings from points in North America to points on the East Coast of South America south of Paramaribo, and vice versa	10c%

UNITED STATES or CANADA TO OR FROM:

	All Classes of Securities	All Other Property
EUROPE and ICELAND		
1. Lisbon	17½c%	⅜%
(Rates additional to above for connecting air service Lisbon to or from Spain)	½%	1%
2. British Isles or Eire	¼%	½%
3. Iceland	⅜%	¾%
AFRICA		
1. North Africa not east of Tripoli	⅜%	¾%
2. West Africa not north of Dakar and South Africa	17½c%	⅜%
NEAR EAST		
1. Egypt	½%	1%
2. Arabia, Palestine, Syria, Cyprus, Iran and Iraq	⅝%	1¼%
ASIA		
1. Afghanistan	¾%	1½%
2. India	¾%	1½%
3. Chungking	1¼%	2½%

C—Ordinary Parcel Post, Government Insured Parcel Post, Registered Parcel Post, Ordinary Mail (Excluding Air Mail)

(a) United States or Canada to from Australasia, Hawaiian and other Pacific Islands Transpacific Cargo Rate.

(b) U. S. to from United Kingdom, Eire, Portugal, Spain, Africa, Near East, Far East, Newfoundland, Iceland, Greenland, Bermuda—but with respect to shipments to or from Spain under policies endorsed with the airborne clause, the Lisbon rate will be charged plus an additional charge of 50c% of the connecting Air Service rate quoted in Section (b) because of the possibility that shipments of valuables may go forward to or from interior points by Air.

(c) U. S. West of Rockies to from Costa Rica, Panama, Panama Canal Zone, Colombia, Ecuador, Peru, Bolivia and Chile.
Cargo Schedule Rate for Pacific voyages to from San Francisco.

(d) U. S. West of Rockies to from Venezuela, Guianas, Brazil, Paraguay, Uruguay, Argentine.
Carg oSchedule Rate via Panama to from San Francisco.

(e) U. S. East of Rockies to from Costa Rica, Panama Canal Zone, South America. West Indies (except Bermuda).
Schedule Rate to from United States Gulf.

(f) United States West of Rockies to from Mexico.
*25% of Schedule Cargo Rate for Pacific voyages to from San Francisco.
United States East of Rockies to from Mexico.
*25% of Schedule Cargo Rate to from United States Gulf.

(g) United States to from British Honduras, Guatemala, Republic of Honduras, El Salvador and Nicaragua.
Cargo Schedule Rate for voyages between United States Gulf and East Coast Central America.

(Rates in this section are not subject to revision, either upward or downward, should the actual route of the shipments become known).

*Note: Reduced percentage provided assured agrees to pay this percentage on all shipments; otherwise individual shipments on Facultative Basis.

D—Express (Excluding Air Express)—Charge Cargo War Risk Schedule Rates.

(Sept. 15, 1944)

QUICK REFERENCE U.S. AIR MAIL RATES

SINCE WORLD WAR II has interrupted regular air express schedules to many parts of the world, air mail remains in many cases the only means of rapid shipment. The following table, therefore, will be useful in cases not covered by the main air express schedule tables.

All rates are per half-ounce from U. S. international airports of departure. Due to war conditions, departures (except to Latin America, Canada, Newfoundland and Alaska) are not sufficiently regular to be listed and are likewise items of military secrecy.

Air mail to Canada and Alaska moves at the usual domestic rate of eight cents per ounce.

Aden 70c	Fiji Island 40c	Nigeria 50c
Afghanistan 70c	Faroe Island 30c	Northern Ireland 30c
Algeria 33c	French Cameroons 60c	Northern Rhodesia 60c
Anglo-Egyptian Sudan 70c	French Equatorial Africa. 60c	Nyasaland 60c
Angola 60c	French Guiana 30c	Palestine 70c
Anguilla 15c	French Guinea 50c	Panama 15c
Antigua 15c	French Somaliland 70c	Paraguay 40c
Argentina 40c	French Sudan 50c	Peru 30c
Aruba 25c	French Togoland 45c	Portugal 30c
Ascension Island 30c	Gambia 50c	Portuguese East Africa. 60c
Australia 70c	Gibraltar 30c	Puerto Rico 10c
Azores 30c	Gold Coast Colony 50c	Redonda 15c
Bahamas 10c	Grenada 15c	Reunion Island 60c
Bahrein Islands 70c	Grenadines 15c	Rio de Oro 40c
Baluchistan 70c	Guadeloupe 15c	Saba 10c
Barbados 25c	Guatemala 12c	St. Christopher 15c
Barbuda 15c	Haiti 10c	St. Eustatius 10c
Belgian Congo 60c	Hawaii 20c	St. Kitts 15c
Bermuda 10c	Honduras (Rep.) 12c	St. Lucia 15c
Bolivia 35c	Iceland 30c	St. Martin 10c
Bonaire 25c	India 70c	St. Vincent 15c
Brazil 40c	Iran 70c	Salvador (El) 12c
British Cameroons 60c	Iraq 70c	Saudi Arabia 70c
British Guiana 30c	Ireland 30c	Scotland 30c
British Honduras 20c	Italian Somaliland 70c	Senegal 45c
British Somaliland 70c	Ivory Coast 50c	Sierra Leone 50c
British Virgin Islands 10c	Jamaica 10c	Southern Rhodesia 60c
Canal Zone 15c	Kenya 60c	Southwest Africa 60c
Canary Islands 40c	Lebanon (Rep.) 70c	Spain 30c
Canton Island 30c	Liberia 50c	Spanish Guinea 50c
Cape Verde Islands 55c	Libya 70c	Surinam 30c
Ceylon 70c	Madagascar 60c	Sweden 30c
Chile 40c	Madeira Islands 30c	Syria 70c
*China (Unoccupied) 70c	Malta 70c	Tanganyika 60c
Colombia 35c	Martinique 15c	Tibet 70c
Corsica 33c	Mauritania 45c	Trans-Jordan 70c
Costa Rica 15c	Mauritius 60c	Trinidad 15c
Cuba 10c	Mexico 10c	Tunisia 33c
Curacao 25c	Midway Island 30c	Turkey 70c
Cyprus 70c	Montserrat 15c	Turks Isle 10c
Dahomey 45c	Morocco 33c	Uganda 60c
Dominica 15c	Mozambique 60c	Union of South Africa. 60c
Dominican Republic 10c	Nevis 15c	Uruguay 40c
Ecuador 30c	New Caledonia 40c	USSR 70c
Egypt 70c	Newfoundland 15c	Vatican City State 30c
England and Wales 30c	New Zealand 50c	Venezuela 25c
Eritrea 70c	Nicaragua 12c	Virgin Islands (U. S.). 10c
Ethiopia 70c	Niger 45c	Zanzibar (Incl. Pemba). 60c

NOTE: *Steamer to India, thence via air, 30 cents per half ounce in addition to regular postage.

STEAMSHIP TO CAPETOWN THENCE BY AIR

(The air fee—PER HALF OUNCE is in addition to regular postage)

Aden 20c	Eritrea 20c	Saudi Arabia 20c
Anglo Egyptian Sudan 15c	Ethiopa 20c	Southern Rhodesia 5c
Angola 5c	French Somaliland 20c	Tanganyika 10c
*Belgian Congo 14c	Italian Somaliland 20c	Turkey 20c
British Somaliland 20c	Kenya 10c	Uganda 10c
Egypt 20c	Malta 20c	Zanzibar (Incl. Pemba). 10c
	Northern Rhodesia 5c	

*Steamer to Boma (or Matadi), thence by air, 9 cents per half ounce in addition to regular postage.

SERVICE IN EUROPE (BY STEAMER FROM NEW YORK)

Fee, 3 cents PER HALF OUNCE in addition to regular postage)

Articles prepaid the above fee are currently forwarded to the port of call of the steamer assigned mails for the countries involved. They are dispatched onward from the port of call by the best available method, air mail or otherwise.

(Continued on next page)

NOTE:—Military demands upon air transportation facilities for strategic cargo and personnel essential to the war effort have made necessary the establishment of the following order of preference in the loading of mail on aircraft destined for restricted areas:

FIRST.....Official air mail.
SECOND.....V-MAIL.
THIRD.....To the extent space is available, other letter mail weighing not in excess of 2 ounces per letter.

The quantities of air mail coming within the third category that can be given air dispatch to the restricted areas cannot be accurately predicted, and such matter may have to be transported by surface means. Military necessity may later require that only official air mail and V-Mail be transported by air to these areas.

Until further notice, therefore, only letters in their usual and ordinary form weighing not in excess of two ounces and coming within the third category may be accepted as air mail for transmission to foreign countries.

Packages of merchandise, prints, etc. (except official packages), will not be carried by air from the United States.

The foregoing restrictions apply to air mail for all points outside the limits of the continental United States (including Bermuda) except that for the time being they will not apply to Mexico, Central America and South America, the West Indies and other islands within the Caribbean area, Alaska, Canada and Newfoundland.

Tarawa Is Station On New Air Route Pioneered by Marines

Blazing of a new landplane route from Johnston Island to Tarawa by Marines flying Curtiss *Commando* transport planes and "firsts" scored in those huge warplanes by the squadron are described for the first time in a dispatch from the Pacific by Capt. Ellis M. Trefethen, USMC.

"It was January 1944, and the Commando, manned by a crew of U. S. Marines from one of the oldest utility squadrons in the Marine Corps, was blazing a new landplane route direct from Johnston Island to Tarawa. Its cargo of death and destruction was an urgent one. The invasion of the Marshalls was not far ahead," Captain Trefethen reported.

"When the transport dropped down on the coral landing strip on shell and bombtorn Betio, the Marine crew had pioneered the new landplane route and had chalked up another 'first,' one of the many records established by the squadron after it received its quota of Curtiss R5C *Commandos* (Army designation: C-46) in September 1943."

Other notable firsts, according to Captain Trefethen, included the first air transfer of a Marine squadron and its equipment. "In that bit of pioneering," he writes, "the Marines carried 396.000 lb. of cargo over a distance of 711 nautical miles in two days, with six planes."

Another "first" was the air transfer of a Marine aircraft group headquarters and service squadron, for which the Commando-equipped Marines received an official commendation from Maj. Gen. Ross E. Rowell, commanding general of Marine Air Wings, Pacific.

"This movement, involving air transportation for 488 passengers and 71,715 lb. of freight for an over-water distance of over 1,100 miles was completed in eight days," the commendation, addressed to Lieut. Col. Neil R. MacIntyre, commanding officer of the squadron, said in part.

Captain Trefethen revealed that 12 Commandos, over a period of nine months, carried 6,911 passengers, 831,365 lb. of mail and 1,993,205 lb. of military freight.

The *Commandos* of the squadron have carried everything from bomb fuses to battle plans, everyone from toprank generals to USO performers, according to Captain Trefethen.

"They flew carrier aircraft spares halfway across the Pacific in time to prepare those aircraft for the next strike. They flew heavily laden ships into an emergency landing strip 3,100 feet long, dredged out of the ocean and built atop a shoal," he says.

"They carried Jap prisoners, and flew a cargo of Marine war dogs, on special missions to Guadalcanal, Australia, Samoa and other points.

Builders of Britain's Ace Bomber Planning 125-Passenger Plane

New York newspapers reported this month, on the basis of an AP dispatch, that A. V. Roe Co., builder of Lancaster bombers, has asked the Ministry of Labor for manpower to start construction of an airliner carrying 125 passengers. The company expects it to be ready by early 1946. It will have a top speed of 325 miles an hour, the dispatch said.

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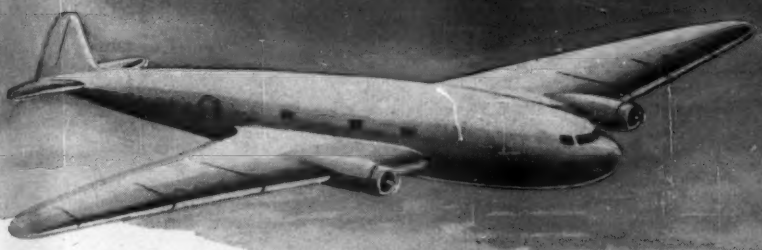

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Chicago, Ill.	Philadelphia, Pa.
Cincinnati, O.	Pittsburgh, Pa.
Cleveland, O.	Providence, R. I.
Columbus, O.	Reading, Pa.
Dallas, Tex.	Rochester, N. Y.
Dayton, O.	St. Louis, Mo.
Detroit, Mich.	St. Paul, Minn.
Erie, Pa.	Schenectady, N. Y.
Fort Wayne, Ind.	South Bend, Ind.
Fort Worth, Tex.	Springfield, Mass.
Grand Rapids, Mich.	Syracuse, N. Y.
Hartford, Conn.	Tampa, Fla.
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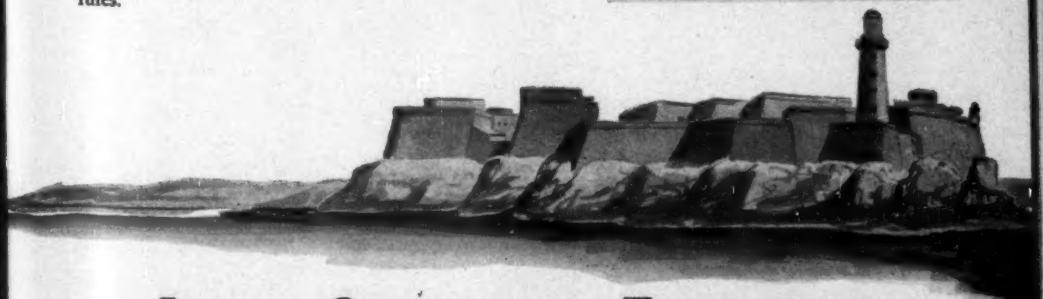

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